

Course: HOPE-Physical Education Variation-1506320

BASIC INFORMATION

Course Title:	HOPE-Physical Education Variation
Course Number:	1506320
Course Abbreviated Title:	HOPE-PE V
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Combined Courses
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	<p>The purpose of this course is to develop and enhance healthy behaviors that influence lifestyle choices and student health and fitness. Students will combine the learning of principles and background information in a classroom setting with physical application of the knowledge. A majority of class time should be spent in physical activity.</p> <p>In addition to the physical education content represented in the benchmarks below, specific health education topics within this course include, but are not limited to:</p> <ul style="list-style-type: none"> Mental/Social Health Physical Activity Components of Physical Fitness Nutrition and Wellness Planning Diseases and Disorders Health Advocacy

STANDARDS (68)

Course: HOPE-Core- 3026010

BASIC INFORMATION

Course Title:	HOPE-Core
Course Number:	3026010
Course Abbreviated Title:	HOPE Core
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Combined Courses
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	<p>The purpose of this course is to develop and enhance healthy behaviors that influence lifestyle choices and student health and fitness. Students will realize the full benefit of this course when it is taught with an integrated approach.</p> <p>In addition to the physical education content represented in the benchmarks below, specific health education topics within this course include, but are not limited to:</p> <ul style="list-style-type: none">Mental/Social HealthPhysical ActivityComponents of Physical FitnessNutrition and Wellness PlanningDiseases and DisordersHealth AdvocacyFirst Aid/CPRAlcohol, Tobacco, and Drug PreventionHuman Sexuality including Abstinence and HIVInternet Safety

STANDARDS (83)

<p><u>HE.912.B.4.2:</u></p>	<p>Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. Remarks/Examples</p> <hr/> <p>Validate other’s opinions, use direct statement, use active statement, and offer alternatives.</p> <hr/>
<p><u>HE.912.B.4.3:</u></p>	<p>Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. Remarks/Examples</p> <hr/> <p>Effective verbal and nonverbal communication, compromise, and conflict-resolution.</p> <hr/>
<p><u>HE.912.B.4.4:</u></p>	<p>Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. Remarks/Examples</p> <hr/> <p>Verbal and written communication, active listening, and how to seek help for a friend.</p> <hr/>
<p><u>HE.912.B.5.1:</u></p>	<p>Determine the value of applying a thoughtful decision-making process in health-related situations. Remarks/Examples</p> <hr/> <p>Defining healthy boundaries and relationships, sexual activity, alcohol consumption, organ-donor decisions, child care, protection against infectious agents, wellness promotion, and first-aid-treatment options.</p> <hr/>
<p><u>HE.912.B.5.2:</u></p>	<p>Generate alternatives to health-related issues or problems. Remarks/Examples</p> <hr/> <p>Health benefits of menu options, refusal-skill options, pre- and post-natal care, natural and man-made conditions, and current trends in disease prevention.</p> <hr/>
<p><u>HE.912.B.5.3:</u></p>	<p>Appraise the potential short-term and long-term outcomes of each alternative on self and others. Remarks/Examples</p> <hr/> <p>Nutrition plan based on personal needs and preferences, impact of</p>

	<p>chronic health condition on individual and family, weapons on campus, and use of stress management and coping skills.</p>
<u>HE.912.B.5.4:</u>	<p>Assess whether individual or collaborative decision making is needed to make a healthy decision.</p> <p>Remarks/Examples</p> <p>Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.</p>
<u>HE.912.B.6.1:</u>	<p>Evaluate personal health practices and overall health status to include all dimensions of health.</p> <p>Remarks/Examples</p> <p>Personal strengths, physical fitness, peer relationships, environmental health, personal hygiene, non-communicable illness or disease, injury prevention, and first-aid responder's safety practices.</p>
<u>HE.912.B.6.2:</u>	<p>Formulate a plan to attain a personal health goal that addresses strengths, needs, and risks.</p> <p>Remarks/Examples</p> <p>Weight management, comprehensive physical fitness, stress management, dating relationships, risky behaviors, and a wellness-program plan.</p>
<u>HE.912.B.6.3:</u>	<p>Implement strategies and monitor progress in achieving a personal health goal.</p> <p>Remarks/Examples</p> <p>Stress management, time out, using of a squeeze ball when frustrated, talking with a friend or professional, pacing yourself, setting realistic expectations, using rewards, getting support, and wellness promotion.</p>
<u>HE.912.B.6.4:</u>	<p>Formulate an effective long-term personal health plan.</p> <p>Remarks/Examples</p> <p>Stress reduction, weight management, healthier eating habits, improved physical fitness, and individual responsibilities for</p>

	protecting health.
<u>HE.912.C.1.1:</u>	<p>Predict how healthy behaviors can affect health status. Remarks/Examples</p> <p>Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.</p>
<u>HE.912.C.1.2:</u>	<p>Interpret the significance of interrelationships in mental/emotional, physical, and social health. Remarks/Examples</p> <p>Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.</p>
<u>HE.912.C.1.4:</u>	<p>Propose strategies to reduce or prevent injuries and health problems. Remarks/Examples</p> <p>Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.</p>
<u>HE.912.C.1.5:</u>	<p>Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. Remarks/Examples</p> <p>Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.</p>
<u>HE.912.C.1.7:</u>	<p>Analyze how heredity and family history can impact personal health. Remarks/Examples</p> <p>Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.</p>
<u>HE.912.C.1.8:</u>	<p>Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. Remarks/Examples</p>

	<p>Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.</p>
<p><u>HE.912.C.2.1:</u></p>	<p>Analyze how the family influences the health of individuals. Remarks/Examples</p> <p>Nutritional management of meals, composition of and relationships within families, and health-insurance status.</p>
<p><u>HE.912.C.2.2:</u></p>	<p>Compare how peers influence healthy and unhealthy behaviors. Remarks/Examples</p> <p>Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.</p>
<p><u>HE.912.C.2.3:</u></p>	<p>Assess how the school and community can affect personal health practice and behaviors. Remarks/Examples</p> <p>Healthier foods, required health education, health screenings, and enforcement of “no tolerance” policies related to all forms of violence, and AED availability and training.</p>
<p><u>HE.912.C.2.4:</u></p>	<p>Evaluate how public health policies and government regulations can influence health promotion and disease prevention. Remarks/Examples</p> <p>Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.</p>

<p><u>HE.912.C.2.5:</u></p>	<p>Evaluate the effect of media on personal and family health. Remarks/Examples</p> <p>Compares brand-name/store-brand items in home, analyzes television viewing habits, identifies effective PSAs, consumer skills, advertisements of health-related community resources, participation in risky behaviors, and deconstructs media to identify promotion of unhealthy stereotypes, and normalization of violence.</p>
<p><u>HE.912.C.2.6:</u></p>	<p>Evaluate the impact of technology on personal, family, and community health. Remarks/Examples</p> <p>Automated external defibrillator in the community, pedestrian crosswalks with audible directions, type of information requested from local 211/hotlines or websites, consumer websites, Internet safety, and disease prevention and control.</p>
<p><u>HE.912.C.2.7:</u></p>	<p>Analyze how culture supports and challenges health beliefs, practices, and behaviors. Remarks/Examples</p> <p>Various cultures' dietary patterns, rites of passage, courtship practices, family roles, personal relationships, ethics, and parenting.</p>
<p><u>HE.912.C.2.8:</u></p>	<p>Analyze how the perceptions of norms influence healthy and unhealthy behaviors. Remarks/Examples</p> <p>Driving over the speed limit, teen parenting, binge drinking, relationships, parenting, health information, environmental practices, and media messages.</p>
<p><u>HE.912.C.2.9:</u></p>	<p>Evaluate the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. Remarks/Examples</p> <p>Social conformity, self-discipline, and impulse vs. delayed gratification.</p>
<p><u>HE.912.P.7.1:</u></p>	<p>Analyze the role of individual responsibility in enhancing health. Remarks/Examples</p> <p>Food choices, media messages, future impact of lifestyle choices,</p>

	individual responsibility for health protection, and stress management.
<u>PE.912.M.1.13:</u>	Perform a student-designed cardiorespiratory enhancing workout.
<u>HE.912.P.7.2:</u>	Evaluate healthy practices and behaviors that will maintain or improve health and reduce health risks. Remarks/Examples Lifestyle choices: drug use/abuse, healthy diet, controlling modes of transmission of infectious agents, riding with impaired drivers, seeking mental-health services when needed, sexual behavior, and engaging in healthy relationships.
<u>HE.912.P.8.1:</u>	Demonstrate how to influence and support others in making positive health choices. Remarks/Examples Avoidance of underage drinking, prevention of driving under the influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.
<u>HE.912.P.8.3:</u>	Work cooperatively as an advocate for improving personal, family, and community health. Remarks/Examples Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
<u>LACC.910.L.3.6:</u>	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
<u>LACC.910.RL.2.4:</u>	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).

<p><u>LACC.910.SL.1.1:</u></p>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
<p><u>LACC.910.W.3.8:</u></p>	<p>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.</p>
<p><u>LACC.910.WHST.2.6:</u></p>	<p>Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.</p>
<p><u>MACC.912.S-ID.1.2:</u></p>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to</p>

Course: Integrated Science 3 for Credit Recovery- 2002445

Direct link to this

page:<http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4394.aspx>

BASIC INFORMATION

Course Title:	Integrated Science 3 for Credit Recovery
Course Number:	2002445
Course Abbreviated Title:	INTEG SCI 3 CR
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Credit Recovery (R)
Course Type:	Core
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding

of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Credit Recovery courses are credit bearing courses with specific content requirements defined by Next Generation Sunshine State Standards and/or Common Core State Standards. Students enrolled in a Credit Recovery course must have previously attempted the corresponding course (and/or End-of-Course assessment) since the course requirements for the Credit Recovery course are exactly the same as the previously attempted corresponding course. For example, Geometry (1206310) and Geometry for Credit Recovery (1206315) have identical content requirements. It is important to note that Credit Recovery courses are not bound by [Section 1003.436\(1\)\(a\), Florida Statutes](#), requiring a minimum of 135 hours of bona fide instruction (120 hours in a school/district implementing block scheduling) in a designed course of study that contains student performance standards, since the students have previously attempted successful completion of the corresponding course. Additionally, Credit Recovery courses should ONLY be used for credit recovery, grade forgiveness, or remediation for students needing to prepare for an End-of-Course assessment retake.

Instructional Practices Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

STANDARDS (89)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

<u>LACC.1112.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>MACC.912.S-ID.1.3:</u>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>MACC.912.S-ID.1.4:</u>	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
<u>MACC.912.S-ID.2.5:</u>	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions

	<p>and decision-making, set clear goals and deadlines, and establish individual roles as needed.</p> <p>c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</p> <p>d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.</p>
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis,

	reflection, and research.
<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.1112.WHST.1.1:</u>	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ol style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<u>LACC.1112.WHST.1.2:</u>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples

	<p>appropriate to the audience’s knowledge of the topic.</p> <ul style="list-style-type: none"> c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>
<p><u>LACC.1112.WHST.2.6:</u></p>	<p>Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
<p><u>LACC.1112.WHST.3.7:</u></p>	<p>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
<p><u>MACC.912.F-IF.2.4:</u></p>	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions.</p>

	<p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p><u>MACC.912.F-IF.3.7:</u></p>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

	<p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p><u>MACC.912.N-Q.1.1:</u></p>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.N-Q.1.3:</u></p>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.S-ID.1.1:</u></p>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>MACC.912.S-ID.1.2:</u></p>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to</p>

	<p>the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>SC.912.E.5.9:</u></p>	<p>Analyze the broad effects of space exploration on the economy and culture of Florida. Remarks/Examples</p> <p>Recognize the economic, technical and social benefits of spinoff technology developed through the space program.</p>
<p><u>SC.912.E.6.4:</u></p>	<p>Analyze how specific geologic processes and features are expressed in Florida and elsewhere. Remarks/Examples</p> <p>Describe the effect of ocean and Gulf water currents, gravel mining, beach erosion, dune development, aquifers and ground water, salt water intrusion, springs, and sink holes on the formation of the Florida peninsula. Explain the effects of latitude, elevation, topography (land surface type), proximity to large bodies of water, and temperature of ocean currents, on climate in Florida.</p>
<p><u>SC.912.E.7.6:</u></p>	<p>Relate the formation of severe weather to the various physical factors. Remarks/Examples</p> <p>Identify the causes of severe weather. Compare and contrast physical factors that affect the formation of severe weather events (e.g. hurricanes, tornados, flash floods, thunderstorms, and drought).</p>
<p><u>SC.912.E.7.8:</u></p>	<p>Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively. Remarks/Examples</p> <p>Describe and discuss the conditions that bring about floods, droughts, wildfires, thunderstorms, hurricanes, rip currents, and tsunamis and how these conditions can influence human behavior (e.g. energy alternatives, conservation, migration, storm preparedness).</p>

<p><u>SC.912.E.7.9:</u></p>	<p>Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.</p> <p>Remarks/Examples</p> <p>Explain how the oceans act as sources/sinks of heat energy, store carbon dioxide mostly as dissolved HCO₃⁻ and CaCO₃ as precipitate or biogenic carbonate deposits, which have an impact on climate change.</p>
<p><u>SC.912.L.15.1:</u></p>	<p>Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</p> <p>Remarks/Examples</p> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.10; SC.912.N.1.3; SC.912.N.1.4; SC.912.N.1.6; SC.912.N.2.1; SC.912.N.3.1; and SC.912.N.3.4.</p>
<p><u>SC.912.L.15.10:</u></p>	<p>Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.</p>
<p><u>SC.912.L.15.13:</u></p>	<p>Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.15.14, SC.912.L.15.15, and SC.912.N.1.3.</p>
<p><u>SC.912.L.15.14:</u></p>	<p>Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.</p>
<p><u>SC.912.L.15.15:</u></p>	<p>Describe how mutation and genetic recombination increase genetic variation.</p>
<p><u>SC.912.L.15.6:</u></p>	<p>Discuss distinguishing characteristics of the domains and kingdoms of living organisms.</p> <p>Remarks/Examples</p> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.4; SC.912.L.15.5; SC.912.N.1.3; and SC.912.N.1.6.</p>

<u>SC.912.L.16.10:</u>	<p>Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<u>SC.912.L.16.13:</u>	<p>Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<u>SC.912.L.16.4:</u>	<p>Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.</p>
<u>SC.912.L.16.8:</u>	<p>Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.</p> <p>Remarks/Examples</p> <p>Integrate HE.912.C.1.4. Analyze how heredity and family history can impact personal health.</p>
<u>SC.912.L.17.11:</u>	<p>Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.</p>
<u>SC.912.L.17.13:</u>	<p>Discuss the need for adequate monitoring of environmental parameters when making policy decisions.</p>
<u>SC.912.L.17.20:</u>	<p>Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.17.11, SC.912.L.17.13, SC.912.N.1.3.</p>
<u>SC.912.L.17.5:</u>	<p>Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.</p> <p>Remarks/Examples</p>

	Annually assessed on Biology EOC. Also assesses SC.912.L.17.2; SC.912.L.17.4; SC.912.L.17.8; SC.912.N.1.4.
<u>SC.912.L.17.6:</u>	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
<u>SC.912.L.17.8:</u>	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
<u>SC.912.L.18.10:</u>	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
<u>SC.912.L.18.11:</u>	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
<u>SC.912.L.18.12:</u>	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. Remarks/Examples
	Annually assessed on Biology EOC.
<u>SC.912.N.1.1:</u>	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation).

6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).
7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12
Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

	<p><u>For Students in Grades 11-12</u></p> <p>LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p>LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p> <p>MACC.K12.MP.2: Reason abstractly and quantitatively.</p> <p>MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]</p> <p>MACC.K12.MP.4: Model with mathematics.</p> <p>MACC.K12.MP.5: Use appropriate tools strategically.</p> <p>MACC.K12.MP.6: Attend to precision.</p> <p>MACC.K12.MP.7: Look for and make use of structure.</p> <p>MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods.</p> <p>Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>

<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.5:</u></p>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.</p> <p>Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<p><u>SC.912.N.1.6:</u></p>	<p>Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>Remarks/Examples</p> <p>Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p>
<p><u>SC.912.N.1.7:</u></p>	<p>Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>Remarks/Examples</p> <p>Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Identify what is science, what clearly is not science, and what</p>

	<p>superficially resembles science (but fails to meet the criteria for science).</p> <p>Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>
<p><u>SC.912.N.2.2:</u></p>	<p>Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>Remarks/Examples</p> <p>Identify scientific questions that can be disproved by experimentation/testing. Recognize that pseudoscience is a claim, belief, or practice which is presented as scientific, but does not adhere to strict standards of science (e.g. controlled variables, sample size, replicability, empirical and measurable evidence, and the concept of falsification).</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.5:</u></p>	<p>Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the</p>

	<p>explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>Remarks/Examples</p> <p>Recognize that scientific questions, observations, and conclusions may be influenced by the existing state of scientific knowledge, the social and cultural context of the researcher, and the observer's experiences and expectations. Identify possible bias in qualitative and quantitative data analysis.</p>
<p><u>SC.912.N.3.1:</u></p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.2:</u></p>	<p>Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.</p> <p>Remarks/Examples</p> <p>Recognize that scientific argument, disagreement, discourse, and discussion create a broader and more accurate understanding of natural processes and events.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.4.1:</u></p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.</p> <p>Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p>

	<p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.4.2:</u></p>	<p>Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p> <p>Remarks/Examples</p> <p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.P.10.11:</u></p>	<p>Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.</p> <p>Remarks/Examples</p> <p>Identify the three main types of radioactive decay (alpha, beta, and gamma) and compare their properties (composition, mass, charge, and penetrating power). Explain the concept of half-life for an isotope (e.g. C-14 is used to determine the age of objects) and calculate the amount of a radioactive substance remaining after an integral number of half-lives have passed. Recognize that the energy release per gram of material is much larger in nuclear fusion or fission reactions than in chemical reactions due to the large amount of energy related to small amounts of mass by equation $E=mc^2$.</p>
<p><u>SC.912.P.10.16:</u></p>	<p>Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.</p> <p>Remarks/Examples</p> <p>Explain that moving electric charges produce magnetic forces and moving magnets produce electric forces. Recognize the Lorentz force is the force on a point charge due to electromagnetic fields and occurs in many devices, including mass spectrometers.</p>

<p><u>SC.912.P.10.18:</u></p>	<p>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</p> <p>Remarks/Examples</p> <hr/> <p>Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving wavelength, frequency, and energy.</p> <hr/>
<p><u>SC.912.P.10.2:</u></p>	<p>Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.</p> <p>Remarks/Examples</p> <hr/> <p>Use calorimetry to illustrate conservation of energy. Differentiate between the different types of systems and solve problems involving conservation of energy in simple systems (Physics). Explain how conservation of energy is important in chemical reactions with bond formation and bond breaking (Chemistry).</p> <hr/>
<p><u>SC.912.P.10.21:</u></p>	<p>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</p> <p>Remarks/Examples</p> <hr/> <p>Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).</p> <hr/>
<p><u>SC.912.P.10.22:</u></p>	<p>Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.</p> <p>Remarks/Examples</p> <hr/> <p>Use examples such as converging/diverging lenses and convex/concave mirrors. Use a ray diagram to determine the approximate location and size of the image, and the mirror equation to obtain numerical information about image distance and image size.</p> <hr/>
<p><u>SC.912.P.10.3:</u></p>	<p>Compare and contrast work and power qualitatively and quantitatively.</p>
<p><u>SC.912.P.10.6:</u></p>	<p>Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.</p>

	<p>Remarks/Examples</p> <p>Construct and interpret potential energy diagrams for endothermic and exothermic chemical reactions, and for rising or falling objects. Describe the transformation of energy as a pendulum swings.</p>
<p><u>SC.912.P.10.9:</u></p>	<p>Describe the quantization of energy at the atomic level.</p> <p>Remarks/Examples</p> <p>Explain that when electrons transition to higher energy levels they absorb energy, and when they transition to lower energy levels they emit energy. Recognize that spectral lines are the result of transitions of electrons between energy levels that correspond to photons of light with an energy and frequency related to the energy spacing between levels (Planck's relationship $E = hv$).</p>
<p><u>SC.912.P.12.10:</u></p>	<p>Interpret the behavior of ideal gases in terms of kinetic molecular theory.</p> <p>Remarks/Examples</p> <p>Using the kinetic molecular theory, explain the behavior of gases and the relationship between pressure and volume (Boyle's law), volume and temperature (Charles's law), pressure and temperature (Gay-Lussac's law), and number of particles in a gas sample (Avogadro's hypothesis).</p>
<p><u>SC.912.P.12.11:</u></p>	<p>Describe phase transitions in terms of kinetic molecular theory.</p> <p>Remarks/Examples</p> <p>Explain, at the molecular level, the behavior of matter as it undergoes phase transitions.</p>
<p><u>SC.912.P.12.12:</u></p>	<p>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.</p> <p>Remarks/Examples</p> <p>Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.</p>
<p><u>SC.912.P.12.13:</u></p>	<p>Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.</p> <p>Remarks/Examples</p>

	<p>Identify and explain the factors that affect the rate of dissolving (e.g., temperature, concentration, surface area, pressure, mixing). Explain that equilibrium is established when forward and reverse-reaction rates are equal.</p>
<p><u>SC.912.P.12.5:</u></p>	<p>Apply the law of conservation of linear momentum to interactions, such as collisions between objects. Remarks/Examples (e.g. elastic and completely inelastic collisions).</p>
<p><u>SC.912.P.12.6:</u></p>	<p>Qualitatively apply the concept of angular momentum. Remarks/Examples Explain that angular momentum is rotational analogy to linear momentum (e.g. Because angular momentum is conserved, a change in the distribution of mass about the axis of rotation will cause a change in the rotational speed [ice skater spinning]).</p>
<p><u>SC.912.P.12.7:</u></p>	<p>Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving. Remarks/Examples Recognize that regardless of the speed of an observer or source, <i>in a vacuum</i> the speed of light is always c.</p>
<p><u>SC.912.P.12.9:</u></p>	<p>Recognize that time, length, and energy depend on the frame of reference. Remarks/Examples The energy E and the momentum p depend on the frame of reference in which they are measured (e.g. Lorentz contraction).</p>
<p><u>SC.912.P.8.10:</u></p>	<p>Describe oxidation-reduction reactions in living and non-living systems. Remarks/Examples Identify the substance(s) losing and gaining electrons in oxidation-reduction reactions. Discuss voltaic cells, various types of batteries, electrolysis of water, smelting and purification of metals, electrolysis of brine versus molten NaCl, neutralization reactions, electrolytic cells, and living systems (photosynthesis and cellular respiration).</p>

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RELATED GLOSSARY TERM DEFINITIONS (80)

Abiotic:	An environmental factor not associated with or derived from living organisms.
Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Adenosine triphosphate (ATP):	An organic compound that is composed of adenosine and three phosphate groups. It serves as a source of energy for many metabolic processes. ATP releases energy when it is broken down into ADP and phosphate by hydrolysis during cell metabolism.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Angular momentum:	A vector quantity that is a measure of the rotational momentum of a rotating body or system, that is equal in classical physics to the product of the angular velocity of the body or system and its moment of inertia with respect to the rotation axis, and that is directed along the rotation axis.
Axis:	The imaginary line on which an object rotates (e.g., Earth's axis runs through Earth between the North Pole and the South Pole); an imaginary straight line that runs through a body; a reference to the line in a coordinate system or graph.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Biotic:	Factors in an environment relating to, caused by, or produced by

	living organisms.
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.
Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which in some cells, is surrounded by a cell wall
Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Dissolve:	To cause to pass into solution.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Dune:	A hill or ridge of sand piled up by the wind.
Electric field:	A region associated with a distribution of electric charge or a varying magnetic field in which forces due to that charge or field act upon other electric charges.
Electromagnetic spectrum:	The entire range of electromagnetic radiation. At one end of the spectrum are gamma rays, which have the shortest wavelengths and high frequencies. At the other end are radio waves, which have the longest wavelengths and low frequencies. Visible light is near the center of the spectrum.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Embryology:	The branch of biology that deals with the formation, early growth, and development of living organisms.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.

Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.
Erosion:	The wearing away of Earth's surface by the breakdown and transportation of rock and soil.
Evolution :	A theory that the various types of species arise from pre-existing species and that distinguishable characteristics are due to modifications through successive generations.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fertilization:	The process by which the female reproductive cell (egg) is united with the male reproductive cell (sperm).
Fission :	The process by which an atomic nucleus splits into two or more large fragments of comparable mass, simultaneously producing additional neutrons and vast amounts of energy; or, a process by which single-cell organisms reproduce asexually.
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in the direction of its application; a push or pull.
Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Fusion :	The process by which two lighter atomic nuclei combine at extremely high temperatures to form a heavier nucleus and release vast amounts of energy.
Gamete:	A reproductive cell having the haploid number of chromosomes, especially a mature sperm or egg capable of fusing with a gamete of the opposite sex to produce the fertilized egg.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.

Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Heredity:	The passage of biological traits or characteristics from parents to offspring through the inheritance of genes.
Hominid:	A group of primates of the family Hominidae, which includes modern humans.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Infrared :	Relating to the invisible part of the electromagnetic spectrum with wavelengths longer than those of visible red light but shorter than those of microwaves.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Latitude:	A measure of relative position north or south on the Earth's surface, measured in degrees from the equator, which has a latitude of 0°, with the poles having a latitude of 90° north and south.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Light:	Electromagnetic radiation that lies within the visible range.
Magnet:	An object that produces a magnetic field and that has the property, either natural or induced, of attracting iron or steel.
Magnetic:	Having the property of attracting iron and certain other materials by virtue of a field of force.
Magnetic field:	The region where magnetic force exists around magnets or electric currents.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Metal:	Any of a category of electropositive elements that usually have a shiny surface, are generally good conductors of heat and electricity, and can be melted or fused, hammered into thin sheets, or drawn into wires.

Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Motion:	The act or process of changing position and/or direction.
Mutation:	A change in genetic sequence.
Natural selection:	The theory stating every organism displays slight variations from related organisms, and these variations make an organism more or less suited for survival and reproduction in specific habitats.
Nonrenewable resource:	A resource that can only be replenished over millions of years.
Nuclear reaction:	A process, such as fission, fusion, or radioactive decay, in which the structure of an atomic nucleus is altered through release of energy or mass or by being broken apart.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Orbit:	A path described by one body in its revolution about another (as by the earth about the sun or by an electron about an atomic nucleus).
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Potential energy:	Energy stored in a physical system due to the object's configuration and position.
Power:	The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.

Reproductive system:	The system of organs involved with animal reproduction, especially sexual reproduction.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Speed of light:	A fundamental physical constant that is the speed at which electromagnetic radiation propagates in a vacuum and that has a value fixed by international convention of 299,792,458 meters per second.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Ultraviolet :	Relating to electromagnetic radiation having frequencies higher than those of visible light but lower than those of x-rays, approximately 10 ¹⁵ -10 ¹⁶ hertz.
Vacuum:	A space empty of matter.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Volume:	A measure of the amount of space an object takes up; also the loudness of a sound or signal.
Wavelength:	The distance between crests of a wave.
X-ray:	A high-energy stream of electromagnetic radiation having a frequency higher than that of ultraviolet light but less than that of a gamma ray (in the range of approximately 10 ¹⁶ - 10 ¹⁹ hertz).



Course: Integrated Science 3- 2002440

Direct link to this

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BASIC INFORMATION

Course Title:	Integrated Science 3
Course Number:	2002440
Course Abbreviated Title:	INTEG SCI 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Core
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make

observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

<u>LACC.1112.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a

	process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line

	of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.1112.WHST.1.1:</u>	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ol style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the

	<p>discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p> <p>c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p>
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>
<p><u>LACC.1112.WHST.2.6:</u></p>	<p>Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>

<p>LACC.1112.WHST.3.7:</p>	<p>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
<p>MACC.912.F-IF.2.4:</p>	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F-IF.4 and 5, focus on linear and exponential functions.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p>MACC 912 F-IF 3 7</p>	<p>Graph functions expressed symbolically and show key features of</p>

	<p>the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> Graph linear and quadratic functions and show intercepts, maxima, and minima. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p>MACC.912.N-Q.1.1:</p>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p>MACC.912.N-Q.1.3:</p>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions,</p>

	equations, and functions.
<u>MACC.912.S-ID.1.1:</u>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>MACC.912.S-ID.1.2:</u>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>MACC.912.S-ID.1.3:</u>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>MACC.912.S-ID.1.4:</u>	<p>Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.</p>
<u>MACC.912.S-ID.2.5:</u>	<p>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</p>
<u>SC.912.F.5.9:</u>	Analyze the broad effects of space exploration on the economy and

	<p>culture of Florida.</p> <p>Remarks/Examples</p> <p>Recognize the economic, technical and social benefits of spinoff technology developed through the space program.</p>
<p><u>SC.912.E.6.4:</u></p>	<p>Analyze how specific geologic processes and features are expressed in Florida and elsewhere.</p> <p>Remarks/Examples</p> <p>Describe the effect of ocean and Gulf water currents, gravel mining, beach erosion, dune development, aquifers and ground water, salt water intrusion, springs, and sink holes on the formation of the Florida peninsula. Explain the effects of latitude, elevation, topography (land surface type), proximity to large bodies of water, and temperature of ocean currents, on climate in Florida.</p>
<p><u>SC.912.E.7.6:</u></p>	<p>Relate the formation of severe weather to the various physical factors.</p> <p>Remarks/Examples</p> <p>Identify the causes of severe weather. Compare and contrast physical factors that affect the formation of severe weather events (e.g. hurricanes, tornados, flash floods, thunderstorms, and drought).</p>
<p><u>SC.912.E.7.8:</u></p>	<p>Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.</p> <p>Remarks/Examples</p> <p>Describe and discuss the conditions that bring about floods, droughts, wildfires, thunderstorms, hurricanes, rip currents, and tsunamis and how these conditions can influence human behavior (e.g. energy alternatives, conservation, migration, storm preparedness).</p>
<p><u>SC.912.E.7.9:</u></p>	<p>Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.</p> <p>Remarks/Examples</p> <p>Explain how the oceans act as sources/sinks of heat energy, store</p>

	<p>carbon dioxide mostly as dissolved HCO_3^- and CaCO_3 as precipitate or biogenic carbonate deposits, which have an impact on climate change.</p>
<u>SC.912.L.15.1:</u>	<p>Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</p> <p>Remarks/Examples</p> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.10; SC.912.N.1.3; SC.912.N.1.4; SC.912.N.1.6; SC.912.N.2.1; SC.912.N.3.1; and SC.912.N.3.4.</p>
<u>SC.912.L.15.10:</u>	<p>Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.</p>
<u>SC.912.L.15.13:</u>	<p>Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.15.14, SC.912.L.15.15, and SC.912.N.1.3.</p>
<u>SC.912.L.15.14:</u>	<p>Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.</p>
<u>SC.912.L.15.15:</u>	<p>Describe how mutation and genetic recombination increase genetic variation.</p>
<u>SC.912.L.15.6:</u>	<p>Discuss distinguishing characteristics of the domains and kingdoms of living organisms.</p> <p>Remarks/Examples</p> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.4; SC.912.L.15.5; SC.912.N.1.3; and SC.912.N.1.6.</p>
<u>SC.912.L.16.10:</u>	<p>Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.</p> <p>Remarks/Examples</p>

	Annually assessed on Biology EOC.
<u>SC.912.L.16.13:</u>	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.4:</u>	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
<u>SC.912.L.16.8:</u>	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer. Remarks/Examples Integrate HE.912.C.1.4. Analyze how heredity and family history can impact personal health.
<u>SC.912.L.17.11:</u>	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
<u>SC.912.L.17.13:</u>	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
<u>SC.912.L.17.20:</u>	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability. Remarks/Examples Annually assessed on Biology EOC. Also assesses SC.912.L.17.11, SC.912.L.17.13, SC.912.N.1.3.
<u>SC.912.L.17.5:</u>	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity. Remarks/Examples Annually assessed on Biology EOC. Also assesses SC.912.L.17.2; SC.912.L.17.4; SC.912.L.17.8; SC.912.N.1.4.
<u>SC.912.L.17.6:</u>	Compare and contrast the relationships among organisms, including

	predation, parasitism, competition, commensalism, and mutualism.
<u>SC.912.L.17.8:</u>	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
<u>SC.912.L.18.10:</u>	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
<u>SC.912.L.18.11:</u>	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
<u>SC.912.L.18.12:</u>	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.N.1.6:</u>	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. Remarks/Examples Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data. CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.
<u>SC.912.N.1.7:</u>	Recognize the role of creativity in constructing scientific questions, methods and explanations. Remarks/Examples Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving). CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.
<u>SC.912.N.2.1:</u>	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for

	<p>science).</p> <p>Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>
<p><u>SC.912.N.2.2:</u></p>	<p>Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>Remarks/Examples</p> <p>Identify scientific questions that can be disproved by experimentation/testing. Recognize that pseudoscience is a claim, belief, or practice which is presented as scientific, but does not adhere to strict standards of science (e.g. controlled variables, sample size, replicability, empirical and measurable evidence, and the concept of falsification).</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific

investigation).

6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).
7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12
Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

	<p><u>For Students in Grades 11-12</u></p> <p>LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p>LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p> <p>MACC.K12.MP.2: Reason abstractly and quantitatively.</p> <p>MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]</p> <p>MACC.K12.MP.4: Model with mathematics.</p> <p>MACC.K12.MP.5: Use appropriate tools strategically.</p> <p>MACC.K12.MP.6: Attend to precision.</p> <p>MACC.K12.MP.7: Look for and make use of structure.</p> <p>MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods.</p> <p>Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>

<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented. Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.5:</u></p>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability. Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.5:</u></p>	<p>Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations. Remarks/Examples</p>

	<p>Recognize that scientific questions, observations, and conclusions may be influenced by the existing state of scientific knowledge, the social and cultural context of the researcher, and the observer's experiences and expectations. Identify possible bias in qualitative and quantitative data analysis.</p>
<p>SC.912.N.3.1:</p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer. Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p>SC.912.N.3.2:</p>	<p>Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science. Remarks/Examples</p> <p>Recognize that scientific argument, disagreement, discourse, and discussion create a broader and more accurate understanding of natural processes and events.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p>SC.912.N.4.1:</p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making. Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p>SC.912.N.4.2:</p>	<p>Weigh the merits of alternative strategies for solving a specific</p>

	<p>societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p> <p>Remarks/Examples</p> <p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.P.10.11:</u></p>	<p>Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.</p> <p>Remarks/Examples</p> <p>Identify the three main types of radioactive decay (alpha, beta, and gamma) and compare their properties (composition, mass, charge, and penetrating power). Explain the concept of half-life for an isotope (e.g. C-14 is used to determine the age of objects) and calculate the amount of a radioactive substance remaining after an integral number of half-lives have passed. Recognize that the energy release per gram of material is much larger in nuclear fusion or fission reactions than in chemical reactions due to the large amount of energy related to small amounts of mass by equation $E=mc^2$.</p>
<p><u>SC.912.P.10.16:</u></p>	<p>Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.</p> <p>Remarks/Examples</p> <p>Explain that moving electric charges produce magnetic forces and moving magnets produce electric forces. Recognize the Lorentz force is the force on a point charge due to electromagnetic fields and occurs in many devices, including mass spectrometers.</p>
<p><u>SC.912.P.10.18:</u></p>	<p>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</p> <p>Remarks/Examples</p>

	<p>Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving wavelength, frequency, and energy.</p>
<p><u>SC.912.P.10.2:</u></p>	<p>Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.</p> <p>Remarks/Examples</p> <p>Use calorimetry to illustrate conservation of energy. Differentiate between the different types of systems and solve problems involving conservation of energy in simple systems (Physics). Explain how conservation of energy is important in chemical reactions with bond formation and bond breaking (Chemistry).</p>
<p><u>SC.912.P.10.21:</u></p>	<p>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</p> <p>Remarks/Examples</p> <p>Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).</p>
<p><u>SC.912.P.10.22:</u></p>	<p>Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.</p> <p>Remarks/Examples</p> <p>Use examples such as converging/diverging lenses and convex/concave mirrors. Use a ray diagram to determine the approximate location and size of the image, and the mirror equation to obtain numerical information about image distance and image size.</p>
<p><u>SC.912.P.10.3:</u></p>	<p>Compare and contrast work and power qualitatively and quantitatively.</p>
<p><u>SC.912.P.10.6:</u></p>	<p>Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.</p> <p>Remarks/Examples</p> <p>Construct and interpret potential energy diagrams for endothermic and exothermic chemical reactions, and for rising or falling objects. Describe the transformation of energy as a pendulum swings.</p>

<p><u>SC.912.P.10.9:</u></p>	<p>Describe the quantization of energy at the atomic level. Remarks/Examples</p> <p>Explain that when electrons transition to higher energy levels they absorb energy, and when they transition to lower energy levels they emit energy. Recognize that spectral lines are the result of transitions of electrons between energy levels that correspond to photons of light with an energy and frequency related to the energy spacing between levels (Planck's relationship $E = hv$).</p>
<p><u>SC.912.P.12.10:</u></p>	<p>Interpret the behavior of ideal gases in terms of kinetic molecular theory. Remarks/Examples</p> <p>Using the kinetic molecular theory, explain the behavior of gases and the relationship between pressure and volume (Boyle's law), volume and temperature (Charles's law), pressure and temperature (Gay-Lussac's law), and number of particles in a gas sample (Avogadro's hypothesis).</p>
<p><u>SC.912.P.12.11:</u></p>	<p>Describe phase transitions in terms of kinetic molecular theory. Remarks/Examples</p> <p>Explain, at the molecular level, the behavior of matter as it undergoes phase transitions.</p>
<p><u>SC.912.P.12.12:</u></p>	<p>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction. Remarks/Examples</p> <p>Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.</p>
<p><u>SC.912.P.12.13:</u></p>	<p>Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates. Remarks/Examples</p> <p>Identify and explain the factors that affect the rate of dissolving (e.g., temperature, concentration, surface area, pressure, mixing). Explain that equilibrium is established when forward and reverse-reaction rates are equal.</p>

<p><u>SC.912.P.12.5:</u></p>	<p>Apply the law of conservation of linear momentum to interactions, such as collisions between objects.</p> <p>Remarks/Examples</p> <p>(e.g. elastic and completely inelastic collisions).</p>
<p><u>SC.912.P.12.6:</u></p>	<p>Qualitatively apply the concept of angular momentum.</p> <p>Remarks/Examples</p> <p>Explain that angular momentum is rotational analogy to linear momentum (e.g. Because angular momentum is conserved, a change in the distribution of mass about the axis of rotation will cause a change in the rotational speed [ice skater spinning]).</p>
<p><u>SC.912.P.12.7:</u></p>	<p>Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.</p> <p>Remarks/Examples</p> <p>Recognize that regardless of the speed of an observer or source, <i>in a vacuum</i> the speed of light is always c.</p>
<p><u>SC.912.P.12.9:</u></p>	<p>Recognize that time, length, and energy depend on the frame of reference.</p> <p>Remarks/Examples</p> <p>The energy E and the momentum p depend on the frame of reference in which they are measured (e.g. Lorentz contraction).</p>
<p><u>SC.912.P.8.10:</u></p>	<p>Describe oxidation-reduction reactions in living and non-living systems.</p> <p>Remarks/Examples</p> <p>Identify the substance(s) losing and gaining electrons in oxidation-reduction reactions. Discuss voltaic cells, various types of batteries, electrolysis of water, smelting and purification of metals, electrolysis of brine versus molten NaCl, neutralization reactions, electrolytic cells, and living systems (photosynthesis and cellular respiration).</p>

RELATED GLOSSARY TERM DEFINITIONS (80)

Abiotic:	An environmental factor not associated with or derived from living organisms.
Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Adenosine triphosphate (ATP):	An organic compound that is composed of adenosine and three phosphate groups. It serves as a source of energy for many metabolic processes. ATP releases energy when it is broken down into ADP and phosphate by hydrolysis during cell metabolism.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Angular momentum:	A vector quantity that is a measure of the rotational momentum of a rotating body or system, that is equal in classical physics to the product of the angular velocity of the body or system and its moment of inertia with respect to the rotation axis, and that is directed along the rotation axis.
Axis:	The imaginary line on which an object rotates (e.g., Earth's axis runs through Earth between the North Pole and the South Pole); an imaginary straight line that runs through a body; a reference to the line in a coordinate system or graph.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Biotic:	Factors in an environment relating to, caused by, or produced by living organisms.
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.
Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which

	in some cells, is surrounded by a cell wall
Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Dissolve:	To cause to pass into solution.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Dune:	A hill or ridge of sand piled up by the wind.
Electric field:	A region associated with a distribution of electric charge or a varying magnetic field in which forces due to that charge or field act upon other electric charges.
Electromagnetic spectrum:	The entire range of electromagnetic radiation. At one end of the spectrum are gamma rays, which have the shortest wavelengths and high frequencies. At the other end are radio waves, which have the longest wavelengths and low frequencies. Visible light is near the center of the spectrum.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Embryology:	The branch of biology that deals with the formation, early growth, and development of living organisms.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.
Erosion:	The wearing away of Earth's surface by the breakdown and transportation of rock and soil.
Evolution :	A theory that the various types of species arise from pre-existing species and that distinguishable characteristics are due to

	modifications through successive generations.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fertilization:	The process by which the female reproductive cell (egg) is united with the male reproductive cell (sperm).
Fission :	The process by which an atomic nucleus splits into two or more large fragments of comparable mass, simultaneously producing additional neutrons and vast amounts of energy; or, a process by which single-cell organisms reproduce asexually.
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in the direction of its application; a push or pull.
Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Fusion :	The process by which two lighter atomic nuclei combine at extremely high temperatures to form a heavier nucleus and release vast amounts of energy.
Gamete:	A reproductive cell having the haploid number of chromosomes, especially a mature sperm or egg capable of fusing with a gamete of the opposite sex to produce the fertilized egg.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Heredity:	The passage of biological traits or characteristics from parents to offspring through the inheritance of genes.

Hominid:	A group of primates of the family Hominidae, which includes modern humans.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Infrared :	Relating to the invisible part of the electromagnetic spectrum with wavelengths longer than those of visible red light but shorter than those of microwaves.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Latitude:	A measure of relative position north or south on the Earth's surface, measured in degrees from the equator, which has a latitude of 0°, with the poles having a latitude of 90° north and south.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Light:	Electromagnetic radiation that lies within the visible range.
Magnet:	An object that produces a magnetic field and that has the property, either natural or induced, of attracting iron or steel.
Magnetic:	Having the property of attracting iron and certain other materials by virtue of a field of force.
Magnetic field:	The region where magnetic force exists around magnets or electric currents.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Metal:	Any of a category of electropositive elements that usually have a shiny surface, are generally good conductors of heat and electricity, and can be melted or fused, hammered into thin sheets, or drawn into wires.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and

	are often used in the construction of scientific theories.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Motion:	The act or process of changing position and/or direction.
Mutation:	A change in genetic sequence.
Natural selection:	The theory stating every organism displays slight variations from related organisms, and these variations make an organism more or less suited for survival and reproduction in specific habitats.
Nonrenewable resource:	A resource that can only be replenished over millions of years.
Nuclear reaction:	A process, such as fission, fusion, or radioactive decay, in which the structure of an atomic nucleus is altered through release of energy or mass or by being broken apart.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Orbit:	A path described by one body in its revolution about another (as by the earth about the sun or by an electron about an atomic nucleus).
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Potential energy:	Energy stored in a physical system due to the object's configuration and position.
Power:	The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.
Reproductive system:	The system of organs involved with animal reproduction, especially sexual reproduction.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer

	space is the region of the universe beyond Earth's atmosphere.
Speed of light:	A fundamental physical constant that is the speed at which electromagnetic radiation propagates in a vacuum and that has a value fixed by international convention of 299,792,458 meters per second.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Ultraviolet :	Relating to electromagnetic radiation having frequencies higher than those of visible light but lower than those of x-rays, approximately 10^{15} - 10^{16} hertz.
Vacuum:	A space empty of matter.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Volume:	A measure of the amount of space an object takes up; also the loudness of a sound or signal.
Wavelength:	The distance between crests of a wave.
X-ray:	A high-energy stream of electromagnetic radiation having a frequency higher than that of ultraviolet light but less than that of a gamma ray (in the range of approximately 10^{16} - 10^{19} hertz).



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Course: Integrated Science 2 Honors- 2002430

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BASIC INFORMATION

Course Title:	Integrated Science 2 Honors
Course Number:	2002430
Course Abbreviated Title:	INTEG SCI 2 HON
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Core
Course Level:	3
Status:	Draft - Board Approval Pending
Honors?	Yes
General Notes:	While the content focus of this course is consistent with the Integrated Science 2 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural

phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.

	<ul style="list-style-type: none"> • Obtaining, evaluating, and communicating information.
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STANDARDS (102)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

HE.912.C.1.3:	<p>Evaluate how environment and personal health are interrelated. Remarks/Examples</p> <p>Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.</p>
HE.912.C.1.5:	<p>Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. Remarks/Examples</p> <p>Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.</p>
HE.912.C.1.7:	<p>Analyze how heredity and family history can impact personal health. Remarks/Examples</p> <p>Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.</p>
IA.CC.910.RST.1.1:	<p>Cite specific textual evidence to support analysis of science and</p>

	technical texts, attending to the precise details of explanations or descriptions.
<u>LACC.910.RST.1.2:</u>	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
<u>LACC.910.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
<u>LACC.910.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
<u>LACC.910.RST.2.5:</u>	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
<u>LACC.910.RST.2.6:</u>	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
<u>LACC.910.RST.3.7:</u>	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
<u>LACC.910.RST.3.8:</u>	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
<u>LACC.910.RST.3.9:</u>	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
<u>LACC.910.RST.4.10:</u>	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
<u>LACC.910.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.</p> <p>a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by</p>

	<p>referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <ul style="list-style-type: none"> b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
<p><u>LACC.910.SL.1.2:</u></p>	<p>Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.</p>
<p><u>LACC.910.SL.1.3:</u></p>	<p>Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.</p>
<p><u>LACC.910.SL.2.4:</u></p>	<p>Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.</p>
<p><u>LACC.910.SL.2.5:</u></p>	<p>Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p>
<p><u>LACC.910.WHST.1.1:</u></p>	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ul style="list-style-type: none"> a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and

	<p>limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <ul style="list-style-type: none"> c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<p><u>LACC.910.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

<u>LACC.910.WHST.2.4:</u>	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
<u>LACC.910.WHST.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
<u>LACC.910.WHST.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
<u>LACC.910.WHST.3.7:</u>	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
<u>LACC.910.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
<u>LACC.910.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>LACC.910.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>MACC.912.F-IF.2.4:</u>	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions.</p>

	<p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p><u>MACC.912.F-IF.3.7:</u></p>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p>

	<p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p><u>MACC.912.G-MG.1.2:</u></p>	<p>Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).</p>
<p><u>MACC.912.N-Q.1.1:</u></p>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.N-Q.1.3:</u></p>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.N-VM.1.3:</u></p>	<p>Solve problems involving velocity and other quantities that can be represented by vectors.</p>
<p><u>MACC.912.S-IC.2.6:</u></p>	<p>Evaluate reports based on data.</p>
<p><u>MACC.912.S-ID.1.1:</u></p>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>

<p><u>MACC.912.S-ID.1.2:</u></p>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>MACC.912.S-ID.1.3:</u></p>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>MACC.912.S-ID.1.4:</u></p>	<p>Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.</p>
<p><u>MACC.912.S-ID.2.5:</u></p>	<p>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</p>
<p><u>MACC.912.S-ID.2.6:</u></p>	<p>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <ol style="list-style-type: none"> a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.

	<p>Remarks/Examples</p> <p>Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.</p> <p>S.ID.6b should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Exponential functions are limited to those with domains in the integers.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to exponential functions with domains not in the integers and trigonometric functions.</p>
<p><u>SC.912.E.5.3:</u></p>	<p>Describe and predict how the initial mass of a star determines its evolution.</p> <p>Remarks/Examples</p> <p>Compare and contrast the evolution of stars of different masses (include the three outcomes of stellar evolution based on mass: black hole, neutron star, white dwarf). Differentiate between the different types of stars found on the Hertzsprung-Russell diagram and the balance between gravitational collapse and nuclear fusion in determining the color, brightness, and life span of a star.</p>
<p><u>SC.912.E.5.5:</u></p>	<p>Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.</p> <p>Remarks/Examples</p> <p>Describe how evidence from the study of our Solar System and newly discovered extra solar planetary systems supports the Nebular theory of the formation of planetary systems.</p>

<p><u>SC.912.E.5.6:</u></p>	<p>Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.</p> <p>Remarks/Examples</p> <p>Explain that Kepler's laws determine the orbits of objects in the solar system and recognize that Kepler's laws are a direct consequence of Newton's Law of Universal Gravitation and Laws of Motion.</p>
<p><u>SC.912.E.7.2:</u></p>	<p>Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.</p> <p>Remarks/Examples</p> <p>Explain how surface and deep-water circulation patterns (Coriolis effect, La Niña, El Niño, Southern Oscillation, upwelling, ocean surface cooling, freshwater influx, density differences, Labrador Current and Gulf Stream) impact energy transfer in the environment.</p>
<p><u>SC.912.E.7.4:</u></p>	<p>Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.</p> <p>Remarks/Examples</p> <p>Describe how latitude, altitude, topography, prevailing winds, proximity to large bodies of water, vegetation and ocean currents determine the climate of a geographic area.</p>
<p><u>SC.912.E.7.7:</u></p>	<p>Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.</p> <p>Remarks/Examples</p> <p>Explain the possible natural (e.g. increased global temperature, wildfires, volcanic dust) and anthropogenic mechanisms (e.g. air pollution, acid rain, greenhouse gases, burning of fossil fuels) and the effects of these mechanisms on global climate change.</p>
<p><u>SC.912.L.14.26:</u></p>	<p>Identify the major parts of the brain on diagrams or models.</p> <p>Remarks/Examples</p> <p>Annually Assessed on Biology EOC.</p> <p>CCSS Connections: MACC.K12.MP.4: Model with mathematics.</p>

<u>SC.912.L.14.27:</u>	Identify the functions of the major parts of the brain, including the meninges, medulla, pons, midbrain, hypothalamus, thalamus, cerebellum and cerebrum.
<u>SC.912.L.14.5:</u>	Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).
<u>SC.912.L.14.52:</u>	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics. Remarks/Examples
	Annually Assessed on Biology EOC. Also assesses SC.912.L.14.6; HE.912.C.1.4; and HE.912.C.1.8.
<u>SC.912.L.14.6:</u>	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
<u>SC.912.L.14.7:</u>	Relate the structure of each of the major plant organs and tissues to physiological processes. Remarks/Examples
	Annually Assessed on Biology EOC.
<u>SC.912.L.15.15:</u>	Describe how mutation and genetic recombination increase genetic variation.
<u>SC.912.L.16.1:</u>	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance. Remarks/Examples
	Annually assessed on Biology EOC. Also assesses SC.912.L.16.2.
<u>SC.912.L.16.10:</u>	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. Remarks/Examples
	Annually assessed on Biology EOC.
<u>SC.912.L.16.12:</u>	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA

	molecules (DNA cloning).
<u>SC.912.L.16.13:</u>	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.14:</u>	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
<u>SC.912.L.16.16:</u>	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
<u>SC.912.L.16.17:</u>	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation. Remarks/Examples Annually assessed on Biology EOC. Also assesses SC.912.L.16.8; SC.912.L.16.14; SC.912.L.16.16.
<u>SC.912.L.16.2:</u>	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
<u>SC.912.L.16.3:</u>	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information. Remarks/Examples Integrate HE.912.C.1.4. Analyze how heredity and family history can impact personal health. Annually assessed on Biology EOC. Also assesses SC.912.L.16.4; SC.912.L.16.5; SC.912.L.16.9.
<u>SC.912.L.16.4:</u>	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
<u>SC.912.L.16.5:</u>	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
<u>SC.912.L.16.7:</u>	Describe how viruses and bacteria transfer genetic material between

	cells and the role of this process in biotechnology.
<u>SC.912.L.16.9:</u>	Explain how and why the genetic code is universal and is common to almost all organisms.
<u>SC.912.L.17.10:</u>	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
<u>SC.912.L.17.9:</u>	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels. Remarks/Examples
	Annually assessed on Biology EOC. Also assesses SC.912.E.7.1.
<u>SC.912.L.18.1:</u>	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules. Remarks/Examples
	Annually assessed on Biology EOC. Also assesses SC.912.L.18.11.
<u>SC.912.L.18.10:</u>	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
<u>SC.912.L.18.11:</u>	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
<u>SC.912.L.18.7:</u>	Identify the reactants, products, and basic functions of photosynthesis.
<u>SC.912.L.18.8:</u>	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
<u>SC.912.L.18.9:</u>	Explain the interrelated nature of photosynthesis and cellular respiration. Remarks/Examples
	Annually assessed on Biology EOC. Also assesses SC.912.L.18.7; SC.912.L.18.8; SC.912.L.18.10.
<u>SC.912.N.2.4:</u>	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific

	<p>knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. Pose answers, explanations, or descriptions of events, 8. Generate explanations that explicate or describe natural phenomena (inferences), 9. Use appropriate evidence and reasoning to justify these

- explanations to others,**
10. Communicate results of scientific investigations, and
11. Evaluate the merits of the explanations produced by others.

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.1112.WHST.3.9 Draw evidence from informational texts to support

	<p>analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them. MACC.K12.MP.2: Reason abstractly and quantitatively. MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.] MACC.K12.MP.4: Model with mathematics. MACC.K12.MP.5: Use appropriate tools strategically. MACC.K12.MP.6: Attend to precision. MACC.K12.MP.7: Look for and make use of structure. MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.5:</u></p>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<p><u>SC.912.N.1.7:</u></p>	<p>Recognize the role of creativity in constructing scientific questions, methods and explanations. Remarks/Examples</p> <p>Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.2.1:</u></p>	<p>Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science). Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>

<u>SC.912.N.2.3:</u>	<p>Identify examples of pseudoscience (such as astrology, phrenology) in society. Remarks/Examples</p> <p>Determine if the phenomenon (event) can be observed, measured, and tested through scientific experimentation.</p>
<u>SC.912.N.3.1:</u>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer. Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<u>SC.912.P.10.10:</u>	<p>Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear). Remarks/Examples</p> <p>Recognize and discuss the effect of each force on the structure of matter and the evidence for it.</p>
<u>SC.912.P.10.12:</u>	<p>Differentiate between chemical and nuclear reactions. Remarks/Examples</p> <p>Describe how chemical reactions involve the rearranging of atoms to form new substances, while nuclear reactions involve the change of atomic nuclei into entirely new atoms. Identify real-world examples where chemical and nuclear reactions occur every day.</p>
<u>SC.912.P.10.14:</u>	<p>Differentiate among conductors, semiconductors, and insulators. Remarks/Examples</p> <p>Describe band structure, valence electrons, and how the charges flow or rearrange themselves between conductors and insulators.</p>
<u>SC.912.P.10.15:</u>	<p>Investigate and explain the relationships among current, voltage,</p>

	<p>resistance, and power. Remarks/Examples</p> <p>Use Ohm's and Kirchoff's laws to explain the relationships among circuits.</p>
<p><u>SC.912.P.10.20:</u></p>	<p>Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another. Remarks/Examples</p> <p>Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, period, reflection and refraction) and explain the relationships among them. Recognize that the source of all waves is a vibration and waves carry energy from one place to another. Distinguish between transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves). Describe sound as a longitudinal wave whose speed depends on the properties of the medium in which it propagates.</p>
<p><u>SC.912.P.10.21:</u></p>	<p>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver. Remarks/Examples</p> <p>Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).</p>
<p><u>SC.912.P.10.22:</u></p>	<p>Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors. Remarks/Examples</p> <p>Use examples such as converging/diverging lenses and convex/concave mirrors. Use a ray diagram to determine the approximate location and size of the image, and the mirror equation to obtain numerical information about image distance and image size.</p>
<p><u>SC.912.P.10.5:</u></p>	<p>Relate temperature to the average molecular kinetic energy. Remarks/Examples</p> <p>Recognize that the internal energy of an object includes the energy of random motion of the object's atoms and molecules, often referred to as thermal energy.</p>
<p><u>SC.912.P.10.6:</u></p>	<p>Create and interpret potential energy diagrams, for example:</p>

	<p>chemical reactions, orbits around a central body, motion of a pendulum. Remarks/Examples</p> <p>Construct and interpret potential energy diagrams for endothermic and exothermic chemical reactions, and for rising or falling objects. Describe the transformation of energy as a pendulum swings.</p>
<p><u>SC.912.P.10.9:</u></p>	<p>Describe the quantization of energy at the atomic level. Remarks/Examples</p> <p>Explain that when electrons transition to higher energy levels they absorb energy, and when they transition to lower energy levels they emit energy. Recognize that spectral lines are the result of transitions of electrons between energy levels that correspond to photons of light with an energy and frequency related to the energy spacing between levels (Planck's relationship $E = h\nu$).</p>
<p><u>SC.912.P.12.1:</u></p>	<p>Distinguish between scalar and vector quantities and assess which should be used to describe an event. Remarks/Examples</p> <p>Distinguish between vector quantities (e.g., displacement, velocity, acceleration, force, and linear momentum) and scalar quantities (e.g., distance, speed, energy, mass, work).</p> <p>MACC.912.N-VM.1.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p>
<p><u>SC.912.P.12.11:</u></p>	<p>Describe phase transitions in terms of kinetic molecular theory. Remarks/Examples</p> <p>Explain, at the molecular level, the behavior of matter as it undergoes phase transitions.</p>
<p><u>SC.912.P.12.12:</u></p>	<p>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction. Remarks/Examples</p> <p>Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.</p>

<p><u>SC.912.P.12.2:</u></p>	<p>Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.</p> <p>Remarks/Examples</p> <p>Solve problems involving distance, velocity, speed, and acceleration. Create and interpret graphs of 1-dimensional motion, such as position versus time, distance versus time, speed versus time, velocity versus time, and acceleration versus time where acceleration is constant.</p> <p>CCSS Connections: MACC.912.N-VM.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p>
<p><u>SC.912.P.12.4:</u></p>	<p>Describe how the gravitational force between two objects depends on their masses and the distance between them.</p> <p>Remarks/Examples</p> <p>Describe Newton's law of universal gravitation in terms of the attraction between two objects, their masses, and the inverse square of the distance between them.</p>
<p><u>SC.912.P.8.11:</u></p>	<p>Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.</p> <p>Remarks/Examples</p> <p>Use experimental data to illustrate and explain the pH scale to characterize acid and base solutions. Compare and contrast the strengths of various common acids and bases.</p>
<p><u>SC.912.P.8.12:</u></p>	<p>Describe the properties of the carbon atom that make the diversity of carbon compounds possible.</p> <p>Remarks/Examples</p> <p>Explain how the bonding characteristics of carbon lead to a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.</p>
<p><u>SC.912.P.8.13:</u></p>	<p>Identify selected functional groups and relate how they contribute to properties of carbon compounds.</p> <p>Remarks/Examples</p> <p>Recognize functional groups in structural formulas of carbon</p>

	<p>molecules (e.g. sugars, proteins, nucleotides, amino acids, hydroxyl groups which form alcohols, carbonyl groups which form aldehydes / ketones, carboxyl groups which form carboxylic acids, etc.).</p>
<p><u>SC.912.P.8.6:</u></p>	<p>Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.</p> <p>Remarks/Examples</p> <p>Describe how atoms combine to form molecules through ionic, covalent, and hydrogen bonding. Compare and contrast the characteristics of the interactions between atoms in ionic and covalent compounds and how these bonds form. Use electronegativity to explain the difference between polar and nonpolar covalent bonds.</p>
<p><u>SC.912.P.8.8:</u></p>	<p>Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.</p> <p>Remarks/Examples</p> <p>Classify chemical reactions as synthesis (combination), decomposition, single displacement (replacement), double displacement, and combustion.</p>
<p><u>SC.912.P.8.9:</u></p>	<p>Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.</p> <p>Remarks/Examples</p> <p>Recognize one mole equals 6.02×10^{23} particles (atoms or molecules). Determine number of particles for elements and compounds using the mole concept, in terms of number of particles, mass, and the volume of an ideal gas at specified conditions of temperature and pressure. Use experimental data to determine percent yield, empirical formulas, molecular formulas, and calculate the mass-to-mass stoichiometry for a chemical reaction.</p>

RELATED GLOSSARY TERM DEFINITIONS (117)

Acceleration:	Rate of change in velocity, usually expressed in meters per second per second; involves an increase or decrease in speed and/or a change in direction.
Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Adenosine triphosphate (ATP):	An organic compound that is composed of adenosine and three phosphate groups. It serves as a source of energy for many metabolic processes. ATP releases energy when it is broken down into ADP and phosphate by hydrolysis during cell metabolism.
Aerobic:	Occurring in the presence of oxygen or requiring oxygen to live. In aerobic respiration, which is the process used by the cells of most organisms, the production of energy from glucose metabolism requires the presence of oxygen.
Amino acid:	An organic molecule containing an amino group (-NH ₂), a carboxyl (-COOH) group, and a variable side chain (R group) that distinguishes the amino acid. Proteins are synthesized from amino acids.
Anaerobic :	Occurring in the absence of oxygen or not requiring oxygen to live. Anaerobic bacteria produce energy from food molecules without the presence of oxygen.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Asexual reproduction:	A form of reproduction in which new individuals are formed without the involvement of gametes.
Atom:	The smallest unit of a chemical element that can still retain the properties of that element.
Attraction :	A term used to describe the electric or magnetic force exerted by oppositely charged objects or to describe the gravitational force that pulls objects toward each other.
Bacteria:	Any of a large group of one-celled organisms that lack a cell nucleus, reproduce by fission or by forming spores, and in some cases cause

	disease.
Base:	A substance that increases the OH ⁻ concentration of a solution; a proton acceptor.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.
Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which in some cells, is surrounded by a cell wall
Cerebellum :	The part of the vertebrate brain that is located below the cerebrum at the rear of the skull and that coordinates balance and muscle activity. In mammals, the cerebellum is made up of two connecting hemispheres that consist of a core of white matter surrounded by gray matter.
Cerebrum :	The largest part of the vertebrate brain, filling most of the skull and consisting of two cerebral hemispheres divided by a deep groove and joined by the corpus callosum, a transverse band of nerve fibers. The cerebrum processes complex sensory information and controls voluntary muscle activity. In humans it is the center of thought, learning, memory, language, and emotion.
Chromosome:	A structure in living cells that consists of a single molecule of DNA bonded to various proteins and that carries the genes determining heredity.
Circuit:	An interconnection of electrical elements forming a complete path for the flow of current.
Clone:	To produce genetic material or produce or grow a cell, group of cells, or organism from a single original cell.
Codominant:	Relating to two alleles of a gene pair in a heterozygote that are both fully expressed.
Compound:	A substance made up of at least two different elements held together by chemical bonds that can only be broken down into elements by chemical processes.

Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Conductor:	A material or an object that conducts heat, electricity, light, or sound.
Conservation of Mass:	The principle that mass cannot be created or destroyed; also conservation of matter.
Consumer:	An organism that feeds on other organisms for food.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Decomposer :	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms.
Density:	Concentration of matter of an object; number of individuals in the same species that live in a given area; the mass per unit volume.
Diversity:	The different species in a given area or specific period of time.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Dominance:	Tendency of certain (dominant) alleles to mask the expression of their corresponding (recessive) alleles.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Electrophoresis:	The migration of electrically charged molecules through a fluid or gel under the influence of an electric field. Electrophoresis is used especially to separate combinations of compounds, such as fragments of DNA, for the purpose of studying their components.
Endosymbiosis:	Symbiosis in which a symbiont dwells within the body of its symbiotic partner.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.

Equator :	An imaginary circle around Earth's surface located between the poles and a plane perpendicular to its axis of rotation that divides it into the Northern and Southern Hemispheres.
Evolution :	A theory that the various types of species arise from pre-existing species and that distinguishable characteristics are due to modifications through successive generations.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fertilization:	The process by which the female reproductive cell (egg) is united with the male reproductive cell (sperm).
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in the direction of its application; a push or pull.
Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Frequency:	The number of cycles or waves per unit time.
Fusion :	The process by which two lighter atomic nuclei combine at extremely high temperatures to form a heavier nucleus and release vast amounts of energy.
Gamete:	A reproductive cell having the haploid number of chromosomes, especially a mature sperm or egg capable of fusing with a gamete of the opposite sex to produce the fertilized egg.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Haploid:	Having a single set of each chromosome in a cell or cell nucleus. In most animals, only the gametes (reproductive cells) are haploid.
Heredity:	The passage of biological traits or characteristics from parents to offspring through the inheritance of genes.
Hypothalamus:	The part of the brain that lies below the thalamus, forming the major portion of the ventral region of the diencephalon and functioning to regulate bodily temperature, certain metabolic processes, and other

	autonomic activities.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Immune system:	The body system that protects the organism by distinguishing foreign tissue and neutralizing potentially pathogenic organisms or substances. The immune system includes organs such as the skin and mucous membranes, which provide an external barrier to infection, cells involved in the immune response, such as lymphocytes, and cell products such as lymphokines.
Inference :	The act of reasoning from factual knowledge or evidence.
Insulator:	A material or an object that does not easily allow heat, electricity, light, or sound to pass through it. Air, cloth and rubber are good electrical insulators; feathers and wool make good thermal insulators.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Kinetic energy:	The energy possessed by a body because of its motion.
Latitude:	A measure of relative position north or south on the Earth's surface, measured in degrees from the equator, which has a latitude of 0°, with the poles having a latitude of 90° north and south.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Ligation:	Binding. In genetics, refers to binding fragments of DNA together.
Light:	Electromagnetic radiation that lies within the visible range.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Medulla:	The central portion of an anatomical structure, such as the adrenal gland or the kidney.
Meiosis:	The process of nuclear division in cells during which the number of chromosomes is reduced by half.
Meninx :	A membrane, especially one of the three membranes enclosing the brain and spinal cord in vertebrates.
Microscope:	An instrument with lenses and light that is used to observe objects

	too small to be visible with only the eyes.
Midbrain:	The middle part of the vertebrate brain. In most animals except mammals, the midbrain processes sensory information. In mammals, it serves primarily to connect the forebrain with the hindbrain.
Mitosis:	A process of nuclear division in eukaryotic cells during which the nucleus of a cell divides into two nuclei, each with the same number of chromosomes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Mole :	The amount of a substance that contains as many atoms, molecules, ions, or other elementary units as the number of atoms in 0.012 kilogram of carbon 12. The number is 6.0225×10^{23} , Avogadro's number.
Molecule:	The smallest unit of matter of a substance that retains all the physical and chemical properties of that substance; consists of a single atom or a group of atoms bonded together.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Moon:	A natural satellite that revolves around a planet.
Motion:	The act or process of changing position and/or direction.
Mutation:	A change in genetic sequence.
Neutron:	A subatomic particle having zero charge, found in the nucleus of an atom.
Nuclear reaction:	A process, such as fission, fusion, or radioactive decay, in which the structure of an atomic nucleus is altered through release of energy or mass or by being broken apart.
Nucleus:	The center region of an atom where protons and neutrons are located; also a cell structure that contains the cell genetic material of the cell.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Orbit·	A path described by one body in its revolution about another (as by

	the earth about the sun or by an electron about an atomic nucleus).
Organ:	A structure containing different tissues that are organized to carry out a specific function of the body (e.g., heart, lungs, brain, etc.)
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Photosynthesis:	A chemical process by which plants use light energy to convert carbon dioxide and water into carbohydrates (sugars).
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Pole:	Either of the points at which the Earth's axis of rotation intersects the Earth's surface; the North Pole or South Pole.
Polygenic:	Any of a group of nonallelic genes that collectively control the inheritance of a quantitative character or modify the expression of a qualitative character.
Pons:	A thick band of nerve fibers in the brainstem of humans and other mammals that links the brainstem to the cerebellum and upper portions of the brain. It is important in the reflex control of involuntary processes, including respiration and circulation. All neural information transmitted between the spinal cord and the brain passes through the pons.
Potential energy:	Energy stored in a physical system due to the object's configuration and position.
Power:	The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.
Producer :	An organism, usually a plant or bacterium, that produces organic compounds from simple inorganic molecules and energy (typically light energy) from the environment.
Recessive:	An allele for a trait that will be masked unless the organism is homozygous for this trait.
Replication:	In scientific research, conducting an experiment to confirm findings or to ensure accuracy. In molecular biology, the process by which genetic material is copied in cells.

Reproductive system:	The system of organs involved with animal reproduction, especially sexual reproduction.
Resistance :	The opposition of a body or substance to current passing through it, resulting in a change of electrical energy into heat or another form of energy.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Semiconductor:	Any of various solid crystalline substances, such as germanium or silicon, having electrical conductivity greater than insulators but less than good conductors, and used especially as a base material for computer chips and other electronic devices.
Solar system:	A star and all the planets and other bodies that orbit it; the region in space where these bodies move.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Sun:	The closest star to Earth and the center of our solar system.
Thalamus:	The part of the vertebrate brain that lies at the rear of the forebrain. It relays sensory information to the cerebral cortex and regulates the perception of touch, pain, and temperature.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Tissue:	Similar cells acting to perform a specific function.
Vaccine:	A preparation of a weakened or killed pathogen, such as a bacterium or virus, or of a portion of the pathogen's structure, that stimulates immune cells to recognize and attack it, especially through antibody production.
van der Waals Force:	A weak force of attraction between electrically neutral molecules that collide with or pass very close to each other. The van der Waals force is caused by the attraction between electron-rich regions of one molecule and electron-poor regions of another (the attraction between the molecules seen as electric dipoles).
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.

Velocity:	The time rate at which a body changes its position vector; quantity whose magnitude is expressed in units of distance over time.
Vibration:	A periodic and repetitive movement around an equilibrium point.
Virus:	A noncellular, usually disease-causing, particle with an outer protein code and a core of genetic material that is capable of growth and replication in living host cells.
Voltage:	A measure of the difference in electric potential between two points in space, a material, or an electric circuit, expressed in volts.
Volume:	A measure of the amount of space an object takes up; also the loudness of a sound or signal.
Wavelength:	The distance between crests of a wave.



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Course: Marine Science 1 Honors- 2002510

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BASIC INFORMATION

Course Title:	Marine Science 1 Honors
Course Number:	2002510
Course Abbreviated Title:	MARINE SCI 1 HON
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Core
Course Level:	3
Status:	Draft - Board Approval Pending
Honors?	Yes
General Notes:	While the content focus of this course is consistent with the Marine Science I course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural

phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

STANDARDS (66)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.

- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

<u>LACC.1112.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to

	deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.1.1:</u>	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ol style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone

	<p>while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p> <p>c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p>
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>
<p><u>LACC.1112.WHST.2.6:</u></p>	<p>Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>

<p><u>LACC.1112.WHST.3.7:</u></p>	<p>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
<p><u>LACC.1112.WHST.3.8:</u></p>	<p>Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
<p><u>LACC.1112.WHST.3.9:</u></p>	<p>Draw evidence from informational texts to support analysis, reflection, and research.</p>
<p><u>LACC.1112.WHST.4.10:</u></p>	<p>Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
<p><u>MACC.912.F-IF.2.4:</u></p>	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for</p>

	<p>standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p><u>MACC.912.F-IF.3.7:</u></p>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p><u>MACC.912.G-MG.1.2:</u></p>	<p>Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).</p>
<p><u>MACC.912.N-O.1.1:</u></p>	<p>Use units as a way to understand problems and to guide the</p>

	<p>solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.N-Q.1.3:</u></p>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p><u>MACC.912.S-IC.2.6:</u></p>	<p>Evaluate reports based on data.</p>
<p><u>MACC.912.S-ID.1.1:</u></p>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>MACC.912.S-ID.1.2:</u></p>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p><u>MACC.912.S-ID.1.3:</u></p>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p>

	<p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p>MACC.912.S-ID.1.4:</p>	<p>Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.</p>
<p>MACC.912.S-ID.2.5:</p>	<p>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</p>
<p>MACC.912.S-ID.2.6:</p>	<p>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <ol style="list-style-type: none"> a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. <p>Remarks/Examples</p> <p>Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.</p> <p>S.ID.6b should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context.</p>

	<p>ii) Exponential functions are limited to those with domains in the integers.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to exponential functions with domains not in the integers and trigonometric functions.</p>
<p><u>SC.912.E.7.6:</u></p>	<p>Relate the formation of severe weather to the various physical factors.</p> <p>Remarks/Examples</p> <p>Identify the causes of severe weather. Compare and contrast physical factors that affect the formation of severe weather events (e.g. hurricanes, tornados, flash floods, thunderstorms, and drought).</p>
<p><u>SC.912.E.7.9:</u></p>	<p>Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.</p> <p>Remarks/Examples</p> <p>Explain how the oceans act as sources/sinks of heat energy, store carbon dioxide mostly as dissolved HCO_3^- and CaCO_3 as precipitate or biogenic carbonate deposits, which have an impact on climate change.</p>
<p><u>SC.912.L.14.6:</u></p>	<p>Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.</p>
<p><u>SC.912.L.15.13:</u></p>	<p>Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.15.14, SC.912.L.15.15, and SC.912.N.1.3.</p>
<p><u>SC.912.L.16.10:</u></p>	<p>Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.</p>

	<p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<u>SC.912.L.17.1:</u>	<p>Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.</p> <p>Remarks/Examples</p> <p>CCSS Connections: MACC.K12.MP.7: Look for and make use of structure.</p>
<u>SC.912.L.17.10:</u>	<p>Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.</p>
<u>SC.912.L.17.11:</u>	<p>Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.</p>
<u>SC.912.L.17.16:</u>	<p>Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.</p> <p>Remarks/Examples</p> <p>Integrate HE.912.C.1.3. Evaluate how environment and personal health are interrelated; and, HE.912.C.1.8. Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases.</p>
<u>SC.912.L.17.17:</u>	<p>Assess the effectiveness of innovative methods of protecting the environment.</p>
<u>SC.912.L.17.18:</u>	<p>Describe how human population size and resource use relate to environmental quality.</p>
<u>SC.912.L.17.2:</u>	<p>Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.</p>
<u>SC.912.L.17.3:</u>	<p>Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.</p>
<u>SC.912.L.17.4:</u>	<p>Describe changes in ecosystems resulting from seasonal variations, climate change and succession.</p>
<u>SC.912.L.17.6:</u>	<p>Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.</p>
<u>SC.912.L.17.7:</u>	<p>Characterize the biotic and abiotic components that define</p>

	freshwater systems, marine systems and terrestrial systems.
<u>SC.912.L.17.8:</u>	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
<u>SC.912.L.17.9:</u>	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels. Remarks/Examples
	Annually assessed on Biology EOC. Also assesses SC.912.E.7.1.
<u>SC.912.L.18.12:</u>	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. Remarks/Examples
	Annually assessed on Biology EOC.
<u>SC.912.N.1.5:</u>	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. Remarks/Examples
	Recognize that contributions to science can be made and have been made by people from all over the world.
<u>SC.912.N.1.6:</u>	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. Remarks/Examples
	Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data. CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.
<u>SC.912.N.1.7:</u>	Recognize the role of creativity in constructing scientific questions, methods and explanations. Remarks/Examples
	Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus

	<p>divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p>SC.912.N.2.1:</p>	<p>Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).</p> <p>Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>
<p>SC.912.N.1.1:</p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g.,

scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).

7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing

	<p>technical tasks; analyze the specific results based on explanations in the text.</p> <p>LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p> <p>MACC.K12.MP.2: Reason abstractly and quantitatively.</p> <p>MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]</p> <p>MACC.K12.MP.4: Model with mathematics.</p> <p>MACC.K12.MP.5: Use appropriate tools strategically.</p> <p>MACC.K12.MP.6: Attend to precision.</p> <p>MACC.K12.MP.7: Look for and make use of structure.</p> <p>MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods.</p> <p>Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent</p>

	<p>results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.4:</u></p>	<p>Identify sources of information and assess their reliability according to the strict standards of scientific investigation.</p> <p>Remarks/Examples</p> <p>Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p> <p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.5:</u></p>	<p>Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>Remarks/Examples</p>

	<p>Recognize that scientific questions, observations, and conclusions may be influenced by the existing state of scientific knowledge, the social and cultural context of the researcher, and the observer's experiences and expectations. Identify possible bias in qualitative and quantitative data analysis.</p>
<p><u>SC.912.N.3.1:</u></p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer. Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.5:</u></p>	<p>Describe the function of models in science, and identify the wide range of models used in science. Remarks/Examples</p> <p>Describe how models are used by scientists to explain observations of nature.</p> <p>CCSS Connections: MACC.K12.MP.4: Model with mathematics.</p>
<p><u>SC.912.N.4.1:</u></p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making. Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.4.2:</u></p>	<p>Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p>

	<p>Remarks/Examples</p> <p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.P.10.2:</u></p>	<p>Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.</p> <p>Remarks/Examples</p> <p>Use calorimetry to illustrate conservation of energy. Differentiate between the different types of systems and solve problems involving conservation of energy in simple systems (Physics). Explain how conservation of energy is important in chemical reactions with bond formation and bond breaking (Chemistry).</p>
<p><u>SC.912.P.10.20:</u></p>	<p>Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.</p> <p>Remarks/Examples</p> <p>Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, period, reflection and refraction) and explain the relationships among them. Recognize that the source of all waves is a vibration and waves carry energy from one place to another. Distinguish between transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves). Describe sound as a longitudinal wave whose speed depends on the properties of the medium in which it propagates.</p>

RELATED GLOSSARY TERM DEFINITIONS (40)

Abiotic:	An environmental factor not associated with or derived from living organisms.
Aquatic:	In or on the water
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Biotic:	Factors in an environment relating to, caused by, or produced by living organisms.
Conduction:	To transmit heat, sound, or electricity through a medium.
Consumer:	An organism that feeds on other organisms for food.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Decomposer :	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms.
Density:	Concentration of matter of an object; number of individuals in the same species that live in a given area; the mass per unit volume.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always

	from the warmer substance to the cooler substance
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Light:	Electromagnetic radiation that lies within the visible range.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Natural selection:	The theory stating every organism displays slight variations from related organisms, and these variations make an organism more or less suited for survival and reproduction in specific habitats.
Nonrenewable resource:	A resource that can only be replenished over millions of years.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Pollution:	Any alteration of the natural environment producing a condition harmful to living organisms; may occur naturally or as a result of human activities.
Producer :	An organism, usually a plant or bacterium, that produces organic compounds from simple inorganic molecules and energy (typically light energy) from the environment.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer

	space is the region of the universe beyond Earth's atmosphere.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Tide:	The regular rise and fall in the surface level of the Earth's oceans, seas, and bays caused by the gravitational attraction of the Moon and to a lesser extent of the Sun.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Velocity:	The time rate at which a body changes its position vector; quantity whose magnitude is expressed in units of distance over time.
Vibration:	A periodic and repetitive movement around an equilibrium point.
Wavelength:	The distance between crests of a wave.



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Course: Marine Science 1- 2002500

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BASIC INFORMATION

Course Title:	Marine Science 1
Course Number:	2002500
Course Abbreviated Title:	MARINE SCI 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Core
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make

	<p>observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).</p> <p>Special Notes:</p> <p>Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:</p> <ol style="list-style-type: none"> 1. Ensuring wide reading from complex text that varies in length. 2. Making close reading and rereading of texts central to lessons. 3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence. 4. Emphasizing students supporting answers based upon evidence from the text. 5. Providing extensive research and writing opportunities (claims and evidence).
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STANDARDS (62)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

LACC.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
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<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.

<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and

	informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>MACC.912.S-ID.1.3:</u>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>SC.912.E.7.9:</u>	<p>Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.</p> <p>Remarks/Examples</p> <p>Explain how the oceans act as sources/sinks of heat energy, store carbon dioxide mostly as dissolved HCO_3^- and CaCO_3 as precipitate or biogenic carbonate deposits, which have an impact on climate change.</p>
<u>SC.912.L.14.6:</u>	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
<u>LACC.1112.WHST.1.1:</u>	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ol style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.

	<ul style="list-style-type: none"> c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>
<p><u>LACC.1112.WHST.2.6:</u></p>	<p>Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
<p><u>LACC.1112.WHST.3.7:</u></p>	<p>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
<p><u>MACC.912.F-IF.2.4:</u></p>	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.4 and 5, focus on linear and exponential functions.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p>

	<p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p><u>MACC.912.F-IF.3.7:</u></p>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> Graph linear and quadratic functions and show intercepts, maxima, and minima. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p><u>MACC.912.N-Q.1.1:</u></p>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>

<u>MACC.912.N-Q.1.3:</u>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<u>MACC.912.S-ID.1.1:</u>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>MACC.912.S-ID.1.2:</u>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>SC.912.L.15.13:</u>	<p>Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.15.14, SC.912.L.15.15, and SC.912.N.1.3.</p>
<u>SC.912.L.17.1:</u>	<p>Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.</p> <p>Remarks/Examples</p> <p>CCSS Connections: MACC.K12.MP.7: Look for and make use of structure.</p>

<u>SC.912.L.17.10:</u>	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
<u>SC.912.L.17.11:</u>	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
<u>SC.912.L.17.16:</u>	<p>Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.</p> <p>Remarks/Examples</p> <p>Integrate HE.912.C.1.3. Evaluate how environment and personal health are interrelated; and, HE.912.C.1.8. Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases.</p>
<u>SC.912.L.17.2:</u>	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
<u>SC.912.L.17.3:</u>	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
<u>SC.912.L.17.4:</u>	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
<u>SC.912.L.17.6:</u>	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
<u>SC.912.L.17.7:</u>	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
<u>SC.912.L.17.8:</u>	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
<u>SC.912.L.17.9:</u>	<p>Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.E.7.1.</p>
<u>SC.912.L.18.12:</u>	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to

	<p>moderate temperature, expansion upon freezing, and versatility as a solvent.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. Pose answers, explanations, or descriptions of events, 8. Generate explanations that explicate or describe natural phenomena (inferences), 9. Use appropriate evidence and reasoning to justify these explanations to others, 10. Communicate results of scientific investigations, and 11. Evaluate the merits of the explanations produced by others.

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12
Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.1112.WHST.3.9 Draw evidence from informational texts to support

	<p>analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them. MACC.K12.MP.2: Reason abstractly and quantitatively. MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.] MACC.K12.MP.4: Model with mathematics. MACC.K12.MP.5: Use appropriate tools strategically. MACC.K12.MP.6: Attend to precision. MACC.K12.MP.7: Look for and make use of structure. MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods. Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented. Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.4:</u></p>	<p>Identify sources of information and assess their reliability according to the strict standards of scientific investigation. Remarks/Examples</p> <p>Read, interpret, and examine the credibility and validity of</p>

	<p>scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p> <p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SC.912.N.1.5:</u></p>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<p><u>SC.912.N.1.6:</u></p>	<p>Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. Remarks/Examples</p> <p>Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p>
<p><u>SC.912.N.1.7:</u></p>	<p>Recognize the role of creativity in constructing scientific questions, methods and explanations. Remarks/Examples</p> <p>Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.2.1:</u></p>	<p>Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science). Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived</p>

	<p>from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.5:</u></p>	<p>Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>Remarks/Examples</p> <p>Recognize that scientific questions, observations, and conclusions may be influenced by the existing state of scientific knowledge, the social and cultural context of the researcher, and the observer's experiences and expectations. Identify possible bias in qualitative and quantitative data analysis.</p>
<p><u>SC.912.N.3.1:</u></p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p>

	<p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.5:</u></p>	<p>Describe the function of models in science, and identify the wide range of models used in science.</p> <p>Remarks/Examples</p> <p>Describe how models are used by scientists to explain observations of nature.</p> <p>CCSS Connections: MACC.K12.MP.4: Model with mathematics.</p>
<p><u>SC.912.N.4.1:</u></p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.</p> <p>Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.4.2:</u></p>	<p>Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p> <p>Remarks/Examples</p> <p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.P.10.2:</u></p>	<p>Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy</p>

	<p>in an isolated system is a conserved quantity.</p> <p>Remarks/Examples</p> <p>Use calorimetry to illustrate conservation of energy. Differentiate between the different types of systems and solve problems involving conservation of energy in simple systems (Physics). Explain how conservation of energy is important in chemical reactions with bond formation and bond breaking (Chemistry).</p>
<p><u>SC.912.P.10.20:</u></p>	<p>Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.</p> <p>Remarks/Examples</p> <p>Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, period, reflection and refraction) and explain the relationships among them. Recognize that the source of all waves is a vibration and waves carry energy from one place to another. Distinguish between transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves). Describe sound as a longitudinal wave whose speed depends on the properties of the medium in which it propagates.</p>

RELATED GLOSSARY TERM DEFINITIONS (39)

Abiotic:	An environmental factor not associated with or derived from living organisms.
Aquatic:	In or on the water
Biotic:	Factors in an environment relating to, caused by, or produced by living organisms.
Conduction:	To transmit heat, sound, or electricity through a medium.
Consumer:	An organism that feeds on other organisms for food.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.

Decomposer :	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms.
Density:	Concentration of matter of an object; number of individuals in the same species that live in a given area; the mass per unit volume.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Light:	Electromagnetic radiation that lies within the visible range.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific

	models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Natural selection:	The theory stating every organism displays slight variations from related organisms, and these variations make an organism more or less suited for survival and reproduction in specific habitats.
Nonrenewable resource:	A resource that can only be replenished over millions of years.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Pollution:	Any alteration of the natural environment producing a condition harmful to living organisms; may occur naturally or as a result of human activities.
Producer :	An organism, usually a plant or bacterium, that produces organic compounds from simple inorganic molecules and energy (typically light energy) from the environment.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Tide:	The regular rise and fall in the surface level of the Earth's oceans, seas, and bays caused by the gravitational attraction of the Moon and to a lesser extent of the Sun.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Velocity:	The time rate at which a body changes its position vector; quantity whose magnitude is expressed in units of distance over time.
Vibration:	A periodic and repetitive movement around an equilibrium point.

Wavelength:

The distance between crests of a wave.



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Course: Forensic Sciences 2- 2002490

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BASIC INFORMATION

Course Title:	Forensic Sciences 2
Course Number:	2002490
Course Abbreviated Title:	FOR SCI 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Elective
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make

observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

STANDARDS (90)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

LACC.1112.RST.1.1:

Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author

	makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>LACC.910.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
<u>LACC.910.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
<u>LACC.910.RST.2.5:</u>	Analyze the structure of the relationships among concepts in a text,

	including relationships among key terms (e.g., force, friction, reaction force, energy).
<u>LACC.910.RST.3.7:</u>	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a

	clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.910.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
<u>LACC.1112.WHST.1.1:</u>	Write arguments focused on <i>discipline-specific content</i> . <ul style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and

	<p>clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <ul style="list-style-type: none"> d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing</p>

	what is most significant for a specific purpose and audience.
<u>LACC.1112.WHST.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
<u>LACC.1112.WHST.3.7:</u>	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
<u>LACC.910.RST.4.10:</u>	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
<u>LACC.910.WHST.1.2:</u>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

<u>LACC.910.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>MACC.912.F-IF.3.7:</u>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> Graph linear and quadratic functions and show intercepts, maxima, and minima. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<u>MACC.912.N-Q.1.1:</u>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<u>MACC.912.N-Q.1.3:</u>	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

	<p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<u>MACC.912.N-VM.1.3:</u>	Solve problems involving velocity and other quantities that can be represented by vectors.
<u>SC.912.E.5.8:</u>	<p>Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.</p> <p>Remarks/Examples</p> <p>Describe how frequency is related to the characteristics of electromagnetic radiation and recognize how spectroscopy is used to detect and interpret information from electromagnetic radiation sources.</p>
<u>SC.912.L.14.11:</u>	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
<u>SC.912.L.14.12:</u>	Describe the anatomy and histology of bone tissue.
<u>SC.912.L.14.13:</u>	Distinguish between bones of the axial skeleton and the appendicular skeleton.
<u>SC.912.L.14.14:</u>	Identify the major bones of the axial and appendicular skeleton.
<u>SC.912.L.14.15:</u>	Identify major markings (such as foramina, fossae, tubercles, etc.) on a skeleton. Explain why these markings are important.
<u>SC.912.L.14.16:</u>	Describe the anatomy and histology, including ultrastructure, of muscle tissue.
<u>SC.912.L.14.36:</u>	Describe the factors affecting blood flow through the cardiovascular system.
<u>SC.912.L.14.4:</u>	Compare and contrast structure and function of various types of microscopes.
<u>SC.912.L.14.43:</u>	Describe the histology of the respiratory system.
<u>SC.912.L.14.44:</u>	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
<u>SC.912.L.14.46:</u>	Describe the physiology of the digestive system, including

	mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.
<u>SC.912.L.14.47:</u>	Describe the physiology of urine formation by the kidney.
<u>SC.912.L.14.6:</u>	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
<u>SC.912.L.16.10:</u>	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.11:</u>	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
<u>SC.912.L.16.12:</u>	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
<u>SC.912.L.16.3:</u>	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information. Remarks/Examples Integrate HE.912.C.1.4. Analyze how heredity and family history can impact personal health. Annually assessed on Biology EOC. Also assesses SC.912.L.16.4; SC.912.L.16.5; SC.912.L.16.9.
<u>SC.912.L.16.4:</u>	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
<u>SC.912.L.16.5:</u>	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
<u>SC.912.L.16.9:</u>	Explain how and why the genetic code is universal and is common to almost all organisms.
<u>SC.912.L.17.6:</u>	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
<u>SC.912.L.17.9:</u>	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through

	<p>trophic levels and the reduction of available energy at successive trophic levels.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.E.7.1.</p>
<u>SC.912.L.18.10:</u>	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
<u>SC.912.L.18.11:</u>	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
<u>SC.912.L.18.12:</u>	<p>Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<u>SC.912.L.18.3:</u>	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
<u>SC.912.L.18.4:</u>	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
<u>SC.912.N.1.5:</u>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.</p> <p>Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<u>SC.912.N.1.6:</u>	<p>Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>Remarks/Examples</p> <p>Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.</p>

	<p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.5:</u></p>	<p>Describe the function of models in science, and identify the wide range of models used in science.</p> <p>Remarks/Examples</p> <p>Describe how models are used by scientists to explain observations of nature.</p> <p>CCSS Connections: MACC.K12.MP.4: Model with mathematics.</p>
<p><u>SC.912.N.4.1:</u></p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.</p> <p>Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.4.2:</u></p>	<p>Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p> <p>Remarks/Examples</p>

	<p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. Pose answers, explanations, or descriptions of events, 8. Generate explanations that explicate or describe natural phenomena (inferences), 9. Use appropriate evidence and reasoning to justify these

- explanations to others,**
10. Communicate results of scientific investigations, and
11. Evaluate the merits of the explanations produced by others.

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12
Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the

	<p>narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them. MACC.K12.MP.2: Reason abstractly and quantitatively. MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.] MACC.K12.MP.4: Model with mathematics. MACC.K12.MP.5: Use appropriate tools strategically. MACC.K12.MP.6: Attend to precision. MACC.K12.MP.7: Look for and make use of structure. MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods. Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented. Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.4:</u></p>	<p>Identify sources of information and assess their reliability according</p>

	<p>to the strict standards of scientific investigation.</p> <p>Remarks/Examples</p> <p>Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p> <p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SC.912.P.10.13:</u></p>	<p>Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.</p> <p>Remarks/Examples</p> <p>Using Coulomb's law, determine the force on a stationary charge due to other stationary charges, and explain that this force is many times greater than the gravitational force. Recognize the relationship between forces and their associated potential energies and that the electric field is directly related to the rate of change of the electric potential from point to point in space.</p>
<p><u>SC.912.P.10.14:</u></p>	<p>Differentiate among conductors, semiconductors, and insulators.</p> <p>Remarks/Examples</p> <p>Describe band structure, valence electrons, and how the charges flow or rearrange themselves between conductors and insulators.</p>
<p><u>SC.912.P.10.15:</u></p>	<p>Investigate and explain the relationships among current, voltage, resistance, and power.</p> <p>Remarks/Examples</p> <p>Use Ohm's and Kirchoff's laws to explain the relationships among circuits.</p>
<p><u>SC.912.P.10.18:</u></p>	<p>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</p> <p>Remarks/Examples</p> <p>Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving</p>

	wavelength, frequency, and energy.
<u>SC.912.P.10.4:</u>	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
<u>SC.912.P.10.7:</u>	Distinguish between endothermic and exothermic chemical processes. Remarks/Examples Classify chemical reactions and phase changes as exothermic (release thermal energy) or endothermic (absorb thermal energy).
<u>SC.912.P.12.1:</u>	Distinguish between scalar and vector quantities and assess which should be used to describe an event. Remarks/Examples Distinguish between vector quantities (e.g., displacement, velocity, acceleration, force, and linear momentum) and scalar quantities (e.g., distance, speed, energy, mass, work). MACC.912.N-VM.1.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.
<u>SC.912.P.12.12:</u>	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction. Remarks/Examples Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.
<u>SC.912.P.12.2:</u>	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time. Remarks/Examples Solve problems involving distance, velocity, speed, and acceleration. Create and interpret graphs of 1-dimensional motion, such as position versus time, distance versus time, speed versus time, velocity versus time, and acceleration versus time where acceleration is constant.

	<p>CCSS Connections: MACC.912.N-VM.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p>
<p><u>SC.912.P.12.3:</u></p>	<p>Interpret and apply Newton's three laws of motion. Remarks/Examples</p> <p>Explain that when the net force on an object is zero, no acceleration occurs; thus, a moving object continues to move at a constant speed in the same direction, or, if at rest, it remains at rest (Newton's first law). Explain that when a net force is applied to an object its motion will change, or accelerate (according to Newton's second law, $F = ma$). Predict and explain how when one object exerts a force on a second object, the second object always exerts a force of equal magnitude but of opposite direction and force back on the first: $F_1 \text{ on } 2 = -F_1 \text{ on } 1$ (Newton's third law).</p>
<p><u>SC.912.P.12.5:</u></p>	<p>Apply the law of conservation of linear momentum to interactions, such as collisions between objects. Remarks/Examples</p> <p>(e.g. elastic and completely inelastic collisions).</p>
<p><u>SC.912.P.12.6:</u></p>	<p>Qualitatively apply the concept of angular momentum. Remarks/Examples</p> <p>Explain that angular momentum is rotational analogy to linear momentum (e.g. Because angular momentum is conserved, a change in the distribution of mass about the axis of rotation will cause a change in the rotational speed [ice skater spinning]).</p>
<p><u>SC.912.P.8.10:</u></p>	<p>Describe oxidation-reduction reactions in living and non-living systems. Remarks/Examples</p> <p>Identify the substance(s) losing and gaining electrons in oxidation-reduction reactions. Discuss voltaic cells, various types of batteries, electrolysis of water, smelting and purification of metals, electrolysis of brine versus molten NaCl, neutralization reactions, electrolytic cells, and living systems (photosynthesis and cellular respiration).</p>
<p><u>SC.912.P.8.13:</u></p>	<p>Identify selected functional groups and relate how they contribute to properties of carbon compounds.</p>

	<p>Remarks/Examples</p> <p>Recognize functional groups in structural formulas of carbon molecules (e.g. sugars, proteins, nucleotides, amino acids, hydroxyl groups which form alcohols, carbonyl groups which form aldehydes / ketones, carboxyl groups which form carboxylic acids, etc.).</p>
<p><u>SC.912.P.8.7:</u></p>	<p>Interpret formula representations of molecules and compounds in terms of composition and structure.</p> <p>Remarks/Examples</p> <p>Write chemical formulas for simple covalent (HCl, SO₂, CO₂, and CH₄), ionic (Na⁺ + Cl⁻ → NaCl) and molecular (O₂, H₂O) compounds. Predict the formulas of ionic compounds based on the number of valence electrons and the charges on the ions.</p>
<p><u>SC.912.P.8.8:</u></p>	<p>Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.</p> <p>Remarks/Examples</p> <p>Classify chemical reactions as synthesis (combination), decomposition, single displacement (replacement), double displacement, and combustion.</p>

RELATED GLOSSARY TERM DEFINITIONS (95)

<p>Absorption :</p>	<p>1-The taking up and storing of energy, such as radiation, light, or sound, without it being reflected or transmitted. 2- The movement of a substance, such as a liquid or solute, across a cell membrane by means of diffusion or osmosis.- The process by which one substance, such as a solid or liquid, takes up another substance, such as a liquid or gas, through minute pores or spaces between its molecules. A paper towel takes up water, and water takes up carbon dioxide, by absorption.</p>
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Acceleration:	Rate of change in velocity, usually expressed in meters per second per second; involves an increase or decrease in speed and/or a change in direction.
Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Adenosine triphosphate (ATP):	An organic compound that is composed of adenosine and three phosphate groups. It serves as a source of energy for many metabolic processes. ATP releases energy when it is broken down into ADP and phosphate by hydrolysis during cell metabolism.
Amino acid:	An organic molecule containing an amino group (-NH ₂), a carboxyl (-COOH) group, and a variable side chain (R group) that distinguishes the amino acid. Proteins are synthesized from amino acids.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Angular momentum:	A vector quantity that is a measure of the rotational momentum of a rotating body or system, that is equal in classical physics to the product of the angular velocity of the body or system and its moment of inertia with respect to the rotation axis, and that is directed along the rotation axis.
Axial skeleton:	The bones constituting the head and trunk of a vertebrate body.
Axis:	The imaginary line on which an object rotates (e.g., Earth's axis runs through Earth between the North Pole and the South Pole); an imaginary straight line that runs through a body; a reference to the line in a coordinate system or graph.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Cardiovascular system:	The bodily system consisting of the heart, blood vessels, and blood that circulates blood throughout the body, delivers nutrients and other essential materials to cells, and removes waste products.
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.

Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which in some cells, is surrounded by a cell wall
Circuit:	An interconnection of electrical elements forming a complete path for the flow of current.
Clone:	To produce genetic material or produce or grow a cell, group of cells, or organism from a single original cell.
Compound:	A substance made up of at least two different elements held together by chemical bonds that can only be broken down into elements by chemical processes.
Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Conductor:	A material or an object that conducts heat, electricity, light, or sound.
Connective tissue:	Tissue that connects, supports, binds, or encloses the structures of the body. Connective tissues are made up of cells embedded in an extracellular matrix and include bones, cartilage, mucous membranes, fat, and blood.
Consumer:	An organism that feeds on other organisms for food.
Convection:	Heat transfer in a gas or liquid by the circulation of currents from one region to another.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Decomposer :	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms.
Digestive system:	The alimentary canal and digestive glands regarded as an integrated system responsible for the ingestion, digestion, and absorption of food.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Electric field:	A region associated with a distribution of electric charge or a varying magnetic field in which forces due to that charge or field act upon other electric charges.
Electric potential:	A measure of the work required by an electric field to move electric

	charges.
Electromagnetic radiation:	The emission and propagation of the entire range of the electromagnetic spectrum, including: gamma rays, x-rays, ultraviolet radiation, visible light, microwaves, and radio waves.
Electromagnetic spectrum:	The entire range of electromagnetic radiation. At one end of the spectrum are gamma rays, which have the shortest wavelengths and high frequencies. At the other end are radio waves, which have the longest wavelengths and low frequencies. Visible light is near the center of the spectrum.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Electrophoresis:	The migration of electrically charged molecules through a fluid or gel under the influence of an electric field. Electrophoresis is used especially to separate combinations of compounds, such as fragments of DNA, for the purpose of studying their components.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.
Epithelial tissue:	Membranous tissue covering internal organs and other internal surfaces of the body.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fatty acid:	Any of a large group of organic acids, especially those found in animal and vegetable fats and oils. Fatty acids are mainly composed of long chains of hydrocarbons ending in a carboxyl group. A fatty acid is saturated when the bonds between carbon atoms are all single bonds. It is unsaturated when any of these bonds is a double bond.
Foramen:	An opening or short passage, especially in the body.
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in

	the direction of its application; a push or pull.
Forensic:	Relating to the use of science or technology in the investigation and establishment of facts or evidence in a court of law.
Fossa:	A small cavity or depression, as in a bone.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Gamete:	A reproductive cell having the haploid number of chromosomes, especially a mature sperm or egg capable of fusing with a gamete of the opposite sex to produce the fertilized egg.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Heredity:	The passage of biological traits or characteristics from parents to offspring through the inheritance of genes.
Histology:	The scientific study of the microscopic structure of organism tissues.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Infrared :	Relating to the invisible part of the electromagnetic spectrum with wavelengths longer than those of visible red light but shorter than those of microwaves.
Insulator:	A material or an object that does not easily allow heat, electricity, light, or sound to pass through it. Air, cloth and rubber are good electrical insulators; feathers and wool make good thermal insulators.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.

Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Ligation:	Binding. In genetics, refers to binding fragments of DNA together.
Light:	Electromagnetic radiation that lies within the visible range.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Membrane:	A thin layer of tissue that surrounds or lines a cell, a group of cells, or a cavity; any barrier separating two fluids.
Metal:	Any of a category of electropositive elements that usually have a shiny surface, are generally good conductors of heat and electricity, and can be melted or fused, hammered into thin sheets, or drawn into wires.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Molecule:	The smallest unit of matter of a substance that retains all the physical and chemical properties of that substance; consists of a single atom or a group of atoms bonded together.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Motion:	The act or process of changing position and/or direction.
Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Phospholipid:	Any of various phosphorus-containing lipids, such as lecithin, that are composed mainly of fatty acids, a phosphate group, and a simple organic molecule such as glycerol.
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of

	nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Polymorphism:	The existence of two or more, usually discrete, different forms in an adult organism of the same species in the same habitat at the same time. In bees, the presence of queen, worker, and drone is an example of polymorphism. Differences between the sexes and between breeds of domesticated animals are not considered examples of polymorphism.
Power:	The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.
Producer :	An organism, usually a plant or bacterium, that produces organic compounds from simple inorganic molecules and energy (typically light energy) from the environment.
Radiation:	Emission of energy in the form of rays or waves.
Replication:	In scientific research, conducting an experiment to confirm findings or to ensure accuracy. In molecular biology, the process by which genetic material is copied in cells.
Resistance :	The opposition of a body or substance to current passing through it, resulting in a change of electrical energy into heat or another form of energy.
Respiratory system:	The system of organs and structures in which gas exchange takes place, consisting of the lungs and airways in air-breathing vertebrates, gills in fish and many invertebrates, the outer covering of the body in worms, and specialized air ducts in insects.
Semiconductor:	Any of various solid crystalline substances, such as germanium or silicon, having electrical conductivity greater than insulators but less than good conductors, and used especially as a base material for computer chips and other electronic devices.
Skeleton:	The internal structure of vertebrate animals, composed of bone or cartilage, that supports the body, serves as a framework for the attachment of muscles, and protects the vital organs and associated structures.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Steroid:	Any of numerous naturally occurring or synthetic fat-soluble organic

	compounds having, as a basis, 17 carbon atoms arranged in four rings and including the sterols and bile acids, adrenal and sex hormones, certain natural drugs such as digitalis compounds, and the precursors of certain vitamins.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Tissue:	Similar cells acting to perform a specific function.
Triglyceride:	A naturally occurring ester of three fatty acids and glycerol that is the chief constituent of fats and oils.
Tubercle:	A small rounded projecting part or outgrowth, such as a wartlike excrescence on the roots of some leguminous plants or a knoblike process in the skin or on a bone.
Ultraviolet :	Relating to electromagnetic radiation having frequencies higher than those of visible light but lower than those of x-rays, approximately 10^{15} - 10^{16} hertz.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Velocity:	The time rate at which a body changes its position vector; quantity whose magnitude is expressed in units of distance over time.
Voltage:	A measure of the difference in electric potential between two points in space, a material, or an electric circuit, expressed in volts.
Wavelength:	The distance between crests of a wave.
X-ray:	A high-energy stream of electromagnetic radiation having a frequency higher than that of ultraviolet light but less than that of a gamma ray (in the range of approximately 10^{16} - 10^{19} hertz).



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Course: Forensic Sciences 1- 2002480

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BASIC INFORMATION

Course Title:	Forensic Sciences 1
Course Number:	2002480
Course Abbreviated Title:	FOR SCI 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Elective
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make

observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

STANDARDS (82)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

LACC.1112.RST.1.1:

Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author

	makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>LACC.910.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
<u>LACC.910.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
<u>LACC.910.RST.2.5:</u>	Analyze the structure of the relationships among concepts in a text,

	including relationships among key terms (e.g., force, friction, reaction force, energy).
<u>LACC.910.RST.3.7:</u>	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a

	clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.910.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
<u>LACC.1112.WHST.1.1:</u>	Write arguments focused on <i>discipline-specific content</i> . <ul style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and

	<p>clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <ul style="list-style-type: none"> d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p><u>LACC.1112.WHST.2.5:</u></p>	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing</p>

	what is most significant for a specific purpose and audience.
<u>LACC.1112.WHST.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
<u>LACC.1112.WHST.3.7:</u>	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
<u>LACC.910.RST.4.10:</u>	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
<u>LACC.910.WHST.1.2:</u>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ol style="list-style-type: none"> a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

<u>LACC.910.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>MACC.912.F-IF.3.7:</u>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<u>MACC.912.N-Q.1.1:</u>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<u>MACC.912.N-Q.1.3:</u>	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

	<p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<u>MACC.912.N-VM.1.3:</u>	Solve problems involving velocity and other quantities that can be represented by vectors.
<u>SC.912.E.5.8:</u>	<p>Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.</p> <p>Remarks/Examples</p> <p>Describe how frequency is related to the characteristics of electromagnetic radiation and recognize how spectroscopy is used to detect and interpret information from electromagnetic radiation sources.</p>
<u>SC.912.L.14.1:</u>	<p>Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.</p> <p>Remarks/Examples</p> <p>Describe how continuous investigations and/or new scientific information influenced the development of the cell theory. Recognize the contributions of scientists in the development of the cell theory.</p>
<u>SC.912.L.14.11:</u>	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
<u>SC.912.L.14.12:</u>	Describe the anatomy and histology of bone tissue.
<u>SC.912.L.14.2:</u>	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
<u>SC.912.L.14.34:</u>	Describe the composition and physiology of blood, including that of the plasma and the formed elements.
<u>SC.912.L.14.35:</u>	Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing and transfusion reactions.
<u>SC.912.L.14.4:</u>	Compare and contrast structure and function of various types of microscopes.
<u>SC.912.L.14.51:</u>	Describe the function of the vertebrate integumentary system.

<u>SC.912.L.14.6:</u>	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
<u>SC.912.L.15.15:</u>	Describe how mutation and genetic recombination increase genetic variation.
<u>SC.912.L.16.10:</u>	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.11:</u>	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
<u>SC.912.L.16.12:</u>	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
<u>SC.912.L.16.2:</u>	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
<u>SC.912.L.16.9:</u>	Explain how and why the genetic code is universal and is common to almost all organisms.
<u>SC.912.L.17.1:</u>	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution. Remarks/Examples CCSS Connections: MACC.K12.MP.7: Look for and make use of structure.
<u>SC.912.L.18.1:</u>	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules. Remarks/Examples Annually assessed on Biology EOC. Also assesses SC.912.L.18.11.
<u>SC.912.N.1.6:</u>	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. Remarks/Examples

	<p>Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p>
<p><u>SC.912.N.2.1:</u></p>	<p>Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).</p> <p>Remarks/Examples</p> <p>Science is the systematic and organized inquiry that is derived from observations and experimentation that can be verified or tested by further investigation to explain natural phenomena (e.g. Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations.)</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.1:</u></p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable</p>

	arguments and critique the reasoning of others.
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. Pose answers, explanations, or descriptions of events, 8. Generate explanations that explicate or describe natural phenomena (inferences), 9. Use appropriate evidence and reasoning to justify these explanations to others, 10. Communicate results of scientific investigations, and 11. Evaluate the merits of the explanations produced by others. <p>Remarks/Examples</p>
	Common Core State Standards (CCSS) Connections for 6-12

Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

Common Core State Standards (CCSS) Connections for Mathematical Practices

MACC.K12.MP.1: Make sense of problems and persevere in solving

	<p>them. MACC.K12.MP.2: Reason abstractly and quantitatively. MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.] MACC.K12.MP.4: Model with mathematics. MACC.K12.MP.5: Use appropriate tools strategically. MACC.K12.MP.6: Attend to precision. MACC.K12.MP.7: Look for and make use of structure. MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.2:</u></p>	<p>Describe and explain what characterizes science and its methods. Remarks/Examples</p> <p>Science is characterized by empirical observations, testable questions, formation of hypotheses, and experimentation that results in stable and replicable results, logical reasoning, and coherent theoretical constructs.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.1.3:</u></p>	<p>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented. Remarks/Examples</p> <p>Assess the reliability of data and identify reasons for inconsistent results, such as sources of error or uncontrolled conditions.</p> <p>CCSS Connections: MACC.K12.MP.2: Reason abstractly and quantitatively; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others</p>
<p><u>SC.912.N.1.4:</u></p>	<p>Identify sources of information and assess their reliability according to the strict standards of scientific investigation. Remarks/Examples</p> <p>Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p>

	<p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SC.912.N.3.2:</u></p>	<p>Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.</p> <p>Remarks/Examples</p> <p>Recognize that scientific argument, disagreement, discourse, and discussion create a broader and more accurate understanding of natural processes and events.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.5:</u></p>	<p>Describe the function of models in science, and identify the wide range of models used in science.</p> <p>Remarks/Examples</p> <p>Describe how models are used by scientists to explain observations of nature.</p> <p>CCSS Connections: MACC.K12.MP.4: Model with mathematics.</p>
<p><u>SC.912.N.4.1:</u></p>	<p>Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.</p> <p>Remarks/Examples</p> <p>Recognize that no single universal step-by-step scientific method captures the complexity of doing science. A number of shared values and perspectives characterize a scientific approach.</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.4.2:</u></p>	<p>Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.</p> <p>Remarks/Examples</p> <p>Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of</p>

	<p>medicine and medical practices).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.P.10.1:</u></p>	<p>Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.</p> <p>Remarks/Examples</p> <p>Differentiate between kinetic and potential energy. Recognize that energy cannot be created or destroyed, only transformed. Identify examples of transformation of energy: Heat to light in incandescent electric light bulbs; Light to heat in laser drills; Electrical to sound in radios; Sound to electrical in microphones; Electrical to chemical in battery rechargers; Chemical to electrical in dry cells; Mechanical to electrical in generators [power plants]; Nuclear to heat in nuclear reactors; Gravitational potential energy of a falling object is converted to kinetic energy then to heat and sound energy when the object hits the ground.</p>
<p><u>SC.912.P.10.18:</u></p>	<p>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</p> <p>Remarks/Examples</p> <p>Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving wavelength, frequency, and energy.</p>
<p><u>SC.912.P.10.20:</u></p>	<p>Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.</p> <p>Remarks/Examples</p> <p>Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, period, reflection and refraction) and explain the relationships among them. Recognize that the source of all waves is a vibration and waves carry energy from one place to another. Distinguish between transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves). Describe sound as a longitudinal wave whose speed depends on the properties of the medium in which it propagates.</p>

<p><u>SC.912.P.10.21:</u></p>	<p>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</p> <p>Remarks/Examples</p> <hr/> <p>Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).</p> <hr/>
<p><u>SC.912.P.12.1:</u></p>	<p>Distinguish between scalar and vector quantities and assess which should be used to describe an event.</p> <p>Remarks/Examples</p> <hr/> <p>Distinguish between vector quantities (e.g., displacement, velocity, acceleration, force, and linear momentum) and scalar quantities (e.g., distance, speed, energy, mass, work).</p> <hr/> <p>MACC.912.N-VM.1.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p> <hr/>
<p><u>SC.912.P.12.12:</u></p>	<p>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.</p> <p>Remarks/Examples</p> <hr/> <p>Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts. Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.</p> <hr/>
<p><u>SC.912.P.12.2:</u></p>	<p>Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.</p> <p>Remarks/Examples</p> <hr/> <p>Solve problems involving distance, velocity, speed, and acceleration. Create and interpret graphs of 1-dimensional motion, such as position versus time, distance versus time, speed versus time, velocity versus time, and acceleration versus time where acceleration is constant.</p> <hr/> <p>CCSS Connections: MACC.912.N-VM.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p> <hr/>

<p><u>SC.912.P.12.3:</u></p>	<p>Interpret and apply Newton's three laws of motion.</p> <p>Remarks/Examples</p> <p>Explain that when the net force on an object is zero, no acceleration occurs; thus, a moving object continues to move at a constant speed in the same direction, or, if at rest, it remains at rest (Newton's first law). Explain that when a net force is applied to an object its motion will change, or accelerate (according to Newton's second law, $F = ma$). Predict and explain how when one object exerts a force on a second object, the second object always exerts a force of equal magnitude but of opposite direction and force back on the first: $F_1 \text{ on } 2 = -F_1 \text{ on } 1$ (Newton's third law).</p>
<p><u>SC.912.P.12.5:</u></p>	<p>Apply the law of conservation of linear momentum to interactions, such as collisions between objects.</p> <p>Remarks/Examples</p> <p>(e.g. elastic and completely inelastic collisions).</p>
<p><u>SC.912.P.12.7:</u></p>	<p>Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.</p> <p>Remarks/Examples</p> <p>Recognize that regardless of the speed of an observer or source, <i>in a vacuum</i> the speed of light is always c.</p>
<p><u>SC.912.P.12.9:</u></p>	<p>Recognize that time, length, and energy depend on the frame of reference.</p> <p>Remarks/Examples</p> <p>The energy E and the momentum p depend on the frame of reference in which they are measured (e.g. Lorentz contraction).</p>
<p><u>SC.912.P.8.1:</u></p>	<p>Differentiate among the four states of matter.</p> <p>Remarks/Examples</p> <p>Differentiate among the four states of matter (solid, liquid, gas and plasma) in terms of energy, particle motion, and phase transitions. (Note: Currently five states of matter have been identified.)</p>
<p><u>SC.912.P.8.11:</u></p>	<p>Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.</p> <p>Remarks/Examples</p> <p>Use experimental data to illustrate and explain the pH scale to</p>

	<p>characterize acid and base solutions. Compare and contrast the strengths of various common acids and bases.</p>
<u>SC.912.P.8.12:</u>	<p>Describe the properties of the carbon atom that make the diversity of carbon compounds possible.</p> <p>Remarks/Examples</p> <p>Explain how the bonding characteristics of carbon lead to a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.</p>
<u>SC.912.P.8.2:</u>	<p>Differentiate between physical and chemical properties and physical and chemical changes of matter.</p> <p>Remarks/Examples</p> <p>Discuss volume, compressibility, density, conductivity, malleability, reactivity, molecular composition, freezing, melting and boiling points. Describe simple laboratory techniques that can be used to separate homogeneous and heterogeneous mixtures (e.g. filtration, distillation, chromatography, evaporation).</p>
<u>SC.912.P.8.7:</u>	<p>Interpret formula representations of molecules and compounds in terms of composition and structure.</p> <p>Remarks/Examples</p> <p>Write chemical formulas for simple covalent (HCl, SO₂, CO₂, and CH₄), ionic (Na⁺ + Cl⁻ → NaCl) and molecular (O₂, H₂O) compounds. Predict the formulas of ionic compounds based on the number of valence electrons and the charges on the ions.</p>

RELATED GLOSSARY TERM DEFINITIONS (85)

Acceleration:	Rate of change in velocity, usually expressed in meters per second per second; involves an increase or decrease in speed and/or a change in direction.
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Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Atom:	The smallest unit of a chemical element that can still retain the properties of that element.
Base:	A substance that increases the OH ⁻ concentration of a solution; a proton acceptor.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Boil:	To change from a liquid to a vapor by the application of heat.
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.
Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which in some cells, is surrounded by a cell wall
Chemical change:	A reaction or a change in a substance produced by chemical means that results in producing a different chemical.
Clone:	To produce genetic material or produce or grow a cell, group of cells, or organism from a single original cell.
Coagulation:	The process of changing from a liquid to a gel or solid state by a series of chemical reactions, especially the process that results in the formation of a blood clot.
Codominant:	Relating to two alleles of a gene pair in a heterozygote that are both fully expressed.
Compound:	A substance made up of at least two different elements held together by chemical bonds that can only be broken down into elements by chemical processes.

Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Conductivity:	The ability or power to conduct or transmit heat, electricity, or sound.
Connective tissue:	Tissue that connects, supports, binds, or encloses the structures of the body. Connective tissues are made up of cells embedded in an extracellular matrix and include bones, cartilage, mucous membranes, fat, and blood.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Density:	Concentration of matter of an object; number of individuals in the same species that live in a given area; the mass per unit volume.
Diversity:	The different species in a given area or specific period of time.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Dominance:	Tendency of certain (dominant) alleles to mask the expression of their corresponding (recessive) alleles.
Electromagnetic radiation:	The emission and propagation of the entire range of the electromagnetic spectrum, including: gamma rays, x-rays, ultraviolet radiation, visible light, microwaves, and radio waves.
Electromagnetic spectrum:	The entire range of electromagnetic radiation. At one end of the spectrum are gamma rays, which have the shortest wavelengths and high frequencies. At the other end are radio waves, which have the longest wavelengths and low frequencies. Visible light is near the center of the spectrum.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Electrophoresis:	The migration of electrically charged molecules through a fluid or gel under the influence of an electric field. Electrophoresis is used especially to separate combinations of compounds, such as fragments of DNA, for the purpose of studying their components.
Energy:	The capacity to do work.

Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.
Epithelial tissue:	Membranous tissue covering internal organs and other internal surfaces of the body.
Evaporation:	The process by which a liquid is converted to its vapor phase by heating the liquid.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in the direction of its application; a push or pull.
Forensic:	Relating to the use of science or technology in the investigation and establishment of facts or evidence in a court of law.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Hemostasis:	The stoppage of blood flow through a blood vessel or body part.
Histology:	The scientific study of the microscopic structure of organism tissues.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.

Infrared :	Relating to the invisible part of the electromagnetic spectrum with wavelengths longer than those of visible red light but shorter than those of microwaves.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Kinetic energy:	The energy possessed by a body because of its motion.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Ligation:	Binding. In genetics, refers to binding fragments of DNA together.
Light:	Electromagnetic radiation that lies within the visible range.
Liquid:	One of the fundamental states of matter with a definite volume but no definite shape.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Melt:	To be changed from a solid to a liquid state especially by the application of heat.
Membrane:	A thin layer of tissue that surrounds or lines a cell, a group of cells, or a cavity; any barrier separating two fluids.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Molecule:	The smallest unit of matter of a substance that retains all the physical and chemical properties of that substance; consists of a single atom or a group of atoms bonded together.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Motion:	The act or process of changing position and/or direction.
Mutation:	A change in genetic sequence.
Observation :	What one has observed using senses or instruments.
Organism:	An individual form of life of one or more cells that maintains various

	vital processes necessary for life.
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Plasma :	The pale yellow or gray-yellow, protein-containing fluid portion of the blood in which the blood cells and platelets are normally suspended.
Polygenic:	Any of a group of nonallelic genes that collectively control the inheritance of a quantitative character or modify the expression of a qualitative character.
Polymorphism:	The existence of two or more, usually discrete, different forms in an adult organism of the same species in the same habitat at the same time. In bees, the presence of queen, worker, and drone is an example of polymorphism. Differences between the sexes and between breeds of domesticated animals are not considered examples of polymorphism.
Radiation:	Emission of energy in the form of rays or waves.
Recessive:	An allele for a trait that will be masked unless the organism is homozygous for this trait.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Speed of light:	A fundamental physical constant that is the speed at which electromagnetic radiation propagates in a vacuum and that has a value fixed by international convention of 299,792,458 meters per second.
Theory :	A set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Tissue:	Similar cells acting to perform a specific function.
Ultraviolet :	Relating to electromagnetic radiation having frequencies higher than those of visible light but lower than those of x-rays, approximately

	10 ¹⁵ -10 ¹⁶ hertz.
Vacuum:	A space empty of matter.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Velocity:	The time rate at which a body changes its position vector; quantity whose magnitude is expressed in units of distance over time.
Vertebrate:	Any of a large group of chordates of the subphylum Vertebrata (or Craniata), characterized by having a backbone. Vertebrates include fish, amphibians, reptiles, birds, and mammals.
Vibration:	A periodic and repetitive movement around an equilibrium point.
Volume:	A measure of the amount of space an object takes up; also the loudness of a sound or signal.
Wavelength:	The distance between crests of a wave.
X-ray:	A high-energy stream of electromagnetic radiation having a frequency higher than that of ultraviolet light but less than that of a gamma ray (in the range of approximately 10 ¹⁶ - 10 ¹⁹ hertz).



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Course: Integrated Science 3 Honors- 2002450

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BASIC INFORMATION

Course Title:	Integrated Science 3 Honors
Course Number:	2002450
Course Abbreviated Title:	INTEG SCI 3 HON
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Science SubSubject: Integrated Sciences
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Type:	Core
Course Level:	3
Status:	Draft - Board Approval Pending
Honors?	Yes
General Notes:	<p>While the content focus of this course is consistent with the Integrated Science 3 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work.</p> <p>Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory,</p>

classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.

	<ul style="list-style-type: none"> • Obtaining, evaluating, and communicating information.
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STANDARDS (104)

Integrate Common Core Standards for Mathematical Practice (MP) as applicable.

- MACC.K12.MP.1.1 Make sense of problems and persevere in solving them.
- MACC.K12.MP.2.1 Reason abstractly and quantitatively.
- MACC.K12.MP.3.1 Construct viable arguments and critique the reasoning of others.
- MACC.K12.MP.4.1 Model with mathematics.
- MACC.K12.MP.5.1 Use appropriate tools strategically.
- MACC.K12.MP.6.1 Attend to precision.
- MACC.K12.MP.7.1 Look for and make use of structure.
- MACC.K12.MP.8.1 Look for and express regularity in repeated reasoning.

<u>LACC.1112.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
<u>LACC.1112.RST.1.2:</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
<u>LACC.1112.RST.1.3:</u>	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
<u>LACC.1112.RST.2.4:</u>	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
<u>LACC.1112.RST.2.5:</u>	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

<u>LACC.1112.RST.3.7:</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<u>LACC.1112.RST.3.8:</u>	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
<u>LACC.1112.RST.3.9:</u>	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
<u>LACC.1112.RST.4.10:</u>	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
<u>LACC.1112.SL.1.1:</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none"> a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to

	make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.1.3:</u>	Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.3.9:</u>	Draw evidence from informational texts to support analysis, reflection, and research.
<u>LACC.1112.WHST.4.10:</u>	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
<u>LACC.1112.WHST.1.1:</u>	Write arguments focused on <i>discipline-specific content</i> . <ul style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form

	<p>that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <ul style="list-style-type: none"> c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
<p><u>LACC.1112.WHST.1.2:</u></p>	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
<p><u>LACC.1112.WHST.2.4:</u></p>	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and</p>

	audience.
LACC.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LACC.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LACC.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
MACC.912.F-IF.2.4:	<p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i></p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F-IF.4 and 5, focus on linear and exponential functions.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</p> <p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context</p>

	<p>ii) Tasks may involve polynomial, exponential, logarithmic, and trigonometric functions.</p> <p>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra II column for standards F-IF.6 and F-IF.9.</p>
<p><u>MACC.912.F-IF.3.7:</u></p>	<p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <ol style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. <p>Remarks/Examples</p> <p>Algebra 1, Unit 2: For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100^2$</p>
<p><u>MACC.912.G-MG.1.2:</u></p>	<p>Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).</p>
<p><u>MACC.912.N-Q.1.1:</u></p>	<p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

	<p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p>MACC.912.N-Q.1.3:</p>	<p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Remarks/Examples</p> <p>Algebra 1, Unit 1: Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.</p>
<p>MACC.912.N-VM.1.3:</p>	<p>Solve problems involving velocity and other quantities that can be represented by vectors.</p>
<p>MACC.912.S-IC.2.6:</p>	<p>Evaluate reports based on data.</p>
<p>MACC.912.S-ID.1.1:</p>	<p>Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p>MACC.912.S-ID.1.2:</p>	<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p>MACC.912.S-ID.1.3:</p>	<p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p> <p>Remarks/Examples</p> <p>In grades 6 – 8, students describe center and spread in a data</p>

	<p>distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<p>MACC.912.S-ID.1.4:</p>	<p>Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.</p>
<p>MACC.912.S-ID.2.5:</p>	<p>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</p>
<p>MACC.912.S-ID.2.6:</p>	<p>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <ol style="list-style-type: none"> a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. <p>Remarks/Examples</p> <p>Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.</p> <p>S.ID.6b should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course.</p> <p>Algebra 1 Assessment Limits and Clarifications</p> <ol style="list-style-type: none"> i) Tasks have a real-world context. ii) Exponential functions are limited to those with domains in the integers.

	<p>Algebra 2 Assessment Limits and Clarifications</p> <p>i) Tasks have a real-world context. ii) Tasks are limited to exponential functions with domains not in the integers and trigonometric functions.</p>
<p><u>SC.912.E.5.8:</u></p>	<p>Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools. Remarks/Examples</p> <p>Describe how frequency is related to the characteristics of electromagnetic radiation and recognize how spectroscopy is used to detect and interpret information from electromagnetic radiation sources.</p>
<p><u>SC.912.E.5.9:</u></p>	<p>Analyze the broad effects of space exploration on the economy and culture of Florida. Remarks/Examples</p> <p>Recognize the economic, technical and social benefits of spinoff technology developed through the space program.</p>
<p><u>SC.912.E.6.4:</u></p>	<p>Analyze how specific geologic processes and features are expressed in Florida and elsewhere. Remarks/Examples</p> <p>Describe the effect of ocean and Gulf water currents, gravel mining, beach erosion, dune development, aquifers and ground water, salt water intrusion, springs, and sink holes on the formation of the Florida peninsula. Explain the effects of latitude, elevation, topography (land surface type), proximity to large bodies of water, and temperature of ocean currents, on climate in Florida.</p>
<p><u>SC.912.E.7.1:</u></p>	<p>Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. Remarks/Examples</p> <p>Describe that the Earth system contains fixed amounts of each stable chemical element and that each element moves among reservoirs in the solid earth, oceans, atmosphere and living</p>

	<p>organisms as part of biogeochemical cycles (i.e., nitrogen, water, carbon, oxygen and phosphorus), which are driven by energy from within the Earth and from the Sun.</p>
<p><u>SC.912.E.7.5:</u></p>	<p>Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions. Remarks/Examples</p> <p>Use models, weather maps and other tools to predict weather conditions and differentiate between accuracy of short-range and long-range weather forecasts.</p>
<p><u>SC.912.E.7.6:</u></p>	<p>Relate the formation of severe weather to the various physical factors. Remarks/Examples</p> <p>Identify the causes of severe weather. Compare and contrast physical factors that affect the formation of severe weather events (e.g. hurricanes, tornados, flash floods, thunderstorms, and drought).</p>
<p><u>SC.912.E.7.8:</u></p>	<p>Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively. Remarks/Examples</p> <p>Describe and discuss the conditions that bring about floods, droughts, wildfires, thunderstorms, hurricanes, rip currents, and tsunamis and how these conditions can influence human behavior (e.g. energy alternatives, conservation, migration, storm preparedness).</p>
<p><u>SC.912.E.7.9:</u></p>	<p>Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water. Remarks/Examples</p> <p>Explain how the oceans act as sources/sinks of heat energy, store carbon dioxide mostly as dissolved HCO_3^- and CaCO_3 as precipitate or biogenic carbonate deposits, which have an impact on climate change.</p>

<p><u>SC.912.L.15.1:</u></p>	<p>Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</p> <p>Remarks/Examples</p> <hr/> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.10; SC.912.N.1.3; SC.912.N.1.4; SC.912.N.1.6; SC.912.N.2.1; SC.912.N.3.1; and SC.912.N.3.4.</p>
<p><u>SC.912.L.15.10:</u></p>	<p>Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.</p>
<p><u>SC.912.L.15.13:</u></p>	<p>Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>Remarks/Examples</p> <hr/> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.15.14, SC.912.L.15.15, and SC.912.N.1.3.</p>
<p><u>SC.912.L.15.14:</u></p>	<p>Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.</p>
<p><u>SC.912.L.15.15:</u></p>	<p>Describe how mutation and genetic recombination increase genetic variation.</p>
<p><u>SC.912.L.15.2:</u></p>	<p>Discuss the use of molecular clocks to estimate how long ago various groups of organisms diverged evolutionarily from one another.</p>
<p><u>SC.912.L.15.3:</u></p>	<p>Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.</p>
<p><u>SC.912.L.15.4:</u></p>	<p>Describe how and why organisms are hierarchically classified and based on evolutionary relationships.</p>
<p><u>SC.912.L.15.5:</u></p>	<p>Explain the reasons for changes in how organisms are classified.</p>
<p><u>SC.912.L.15.6:</u></p>	<p>Discuss distinguishing characteristics of the domains and kingdoms of living organisms.</p> <p>Remarks/Examples</p> <hr/> <p>Annually Assessed on Biology EOC. Also assesses SC.912.L.15.4; SC.912.L.15.5; SC.912.N.1.3; and SC.912.N.1.6.</p>

<u>SC.912.L.15.8:</u>	Describe the scientific explanations of the origin of life on Earth. Remarks/Examples Annually assessed on Biology EOC. Also assesses SC.912.N.1.3, SC.912.N.1.4, and SC.912.N.2.1.
<u>SC.912.L.16.10:</u>	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.13:</u>	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy. Remarks/Examples Annually assessed on Biology EOC.
<u>SC.912.L.16.4:</u>	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
<u>SC.912.L.16.8:</u>	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer. Remarks/Examples Integrate HE.912.C.1.4. Analyze how heredity and family history can impact personal health.
<u>SC.912.L.17.11:</u>	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
<u>SC.912.L.17.13:</u>	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
<u>SC.912.L.17.16:</u>	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution. Remarks/Examples Integrate HE.912.C.1.3. Evaluate how environment and personal health are interrelated; and, HE.912.C.1.8. Analyze strategies for prevention,

	<p>detection, and treatment of communicable and chronic diseases.</p>
<u>SC.912.L.17.2:</u>	<p>Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.</p>
<u>SC.912.L.17.20:</u>	<p>Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.17.11, SC.912.L.17.13, SC.912.N.1.3.</p>
<u>SC.912.L.17.4:</u>	<p>Describe changes in ecosystems resulting from seasonal variations, climate change and succession.</p>
<u>SC.912.L.17.5:</u>	<p>Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.L.17.2; SC.912.L.17.4; SC.912.L.17.8; SC.912.N.1.4.</p>
<u>SC.912.L.17.6:</u>	<p>Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.</p>
<u>SC.912.L.17.8:</u>	<p>Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.</p>
<u>SC.912.L.17.9:</u>	<p>Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC. Also assesses SC.912.E.7.1.</p>
<u>SC.912.L.18.10:</u>	<p>Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.</p>
<u>SC.912.L.18.11:</u>	<p>Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and</p>

	temperature, and their effect on enzyme activity.
<p><u>SC.912.L.18.12:</u></p>	<p>Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.</p> <p>Remarks/Examples</p> <p>Annually assessed on Biology EOC.</p>
<p><u>SC.912.N.1.1:</u></p>	<p>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. Plan investigations, (Design and evaluate a scientific investigation). 6. Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. Pose answers, explanations, or descriptions of events, 8. Generate explanations that explicate or describe natural phenomena (inferences), 9. Use appropriate evidence and reasoning to justify these explanations to others, 10. Communicate results of scientific investigations, and

11. Evaluate the merits of the explanations produced by others.

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or

	<p>technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them. MACC.K12.MP.2: Reason abstractly and quantitatively. MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.] MACC.K12.MP.4: Model with mathematics. MACC.K12.MP.5: Use appropriate tools strategically. MACC.K12.MP.6: Attend to precision. MACC.K12.MP.7: Look for and make use of structure. MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.4:</u></p>	<p>Identify sources of information and assess their reliability according to the strict standards of scientific investigation.</p> <p>Remarks/Examples</p> <p>Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p> <p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SC.912.N.1.5:</u></p>	<p>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.</p> <p>Remarks/Examples</p> <p>Recognize that contributions to science can be made and have been made by people from all over the world.</p>
<p><u>SC.912.N.1.6:</u></p>	<p>Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>Remarks/Examples</p> <p>Collect data/evidence and use tables/graphs to draw conclusions and make inferences based on patterns or trends in the data.</p>

	<p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p>
<p><u>SC.912.N.1.7:</u></p>	<p>Recognize the role of creativity in constructing scientific questions, methods and explanations. Remarks/Examples</p> <p>Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>
<p><u>SC.912.N.2.2:</u></p>	<p>Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion. Remarks/Examples</p> <p>Identify scientific questions that can be disproved by experimentation/testing. Recognize that pseudoscience is a claim, belief, or practice which is presented as scientific, but does not adhere to strict standards of science (e.g. controlled variables, sample size, replicability, empirical and measurable evidence, and the concept of falsification).</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.4:</u></p>	<p>Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability. Remarks/Examples</p> <p>Recognize that ideas with the most durable explanatory power become established theories, but scientific explanations are continually subjected to change in the face of new evidence.</p>

	<p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.5:</u></p>	<p>Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>Remarks/Examples</p> <p>Recognize that scientific questions, observations, and conclusions may be influenced by the existing state of scientific knowledge, the social and cultural context of the researcher, and the observer's experiences and expectations. Identify possible bias in qualitative and quantitative data analysis.</p>
<p><u>SC.912.N.3.1:</u></p>	<p>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>Remarks/Examples</p> <p>Explain that a scientific theory is a well-tested hypothesis supported by a preponderance of empirical evidence.</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and, MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.3.2:</u></p>	<p>Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.</p> <p>Remarks/Examples</p> <p>Recognize that scientific argument, disagreement, discourse, and discussion create a broader and more accurate understanding of natural processes and events.</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>

<p><u>SC.912.P.10.10:</u></p>	<p>Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear). Remarks/Examples</p> <p>Recognize and discuss the effect of each force on the structure of matter and the evidence for it.</p>
<p><u>SC.912.P.10.11:</u></p>	<p>Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues. Remarks/Examples</p> <p>Identify the three main types of radioactive decay (alpha, beta, and gamma) and compare their properties (composition, mass, charge, and penetrating power). Explain the concept of half-life for an isotope (e.g. C-14 is used to determine the age of objects) and calculate the amount of a radioactive substance remaining after an integral number of half-lives have passed. Recognize that the energy release per gram of material is much larger in nuclear fusion or fission reactions than in chemical reactions due to the large amount of energy related to small amounts of mass by equation $E=mc^2$.</p>
<p><u>SC.912.P.10.13:</u></p>	<p>Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy. Remarks/Examples</p> <p>Using Coulomb's law, determine the force on a stationary charge due to other stationary charges, and explain that this force is many times greater than the gravitational force. Recognize the relationship between forces and their associated potential energies and that the electric field is directly related to the rate of change of the electric potential from point to point in space.</p>
<p><u>SC.912.P.10.16:</u></p>	<p>Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies. Remarks/Examples</p> <p>Explain that moving electric charges produce magnetic forces and moving magnets produce electric forces. Recognize the Lorentz force is the force on a point charge due to electromagnetic fields and occurs in many devices, including mass spectrometers.</p>
<p><u>SC.912.P.10.17:</u></p>	<p>Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.</p>

	<p>Remarks/Examples</p> <p>Recognize that an oscillating charge creates an oscillating electric field which gives rise to electromagnetic waves. Recognize a changing magnetic field makes an electric field, and a changing electric field makes a magnetic field, and these phenomena are expressed mathematically through the Faraday law and the Ampere-Maxwell law.</p>
<p><u>SC.912.P.10.18:</u></p>	<p>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</p> <p>Remarks/Examples</p> <p>Describe the electromagnetic spectrum (i.e., radio waves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays) in terms of frequency, wavelength and energy. Solve problems involving wavelength, frequency, and energy.</p>
<p><u>SC.912.P.10.2:</u></p>	<p>Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.</p> <p>Remarks/Examples</p> <p>Use calorimetry to illustrate conservation of energy. Differentiate between the different types of systems and solve problems involving conservation of energy in simple systems (Physics). Explain how conservation of energy is important in chemical reactions with bond formation and bond breaking (Chemistry).</p>
<p><u>SC.912.P.10.21:</u></p>	<p>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</p> <p>Remarks/Examples</p> <p>Describe the apparent change in frequency of waves due to the motion of a source or a receiver (the Doppler effect).</p>
<p><u>SC.912.P.10.22:</u></p>	<p>Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.</p> <p>Remarks/Examples</p> <p>Use examples such as converging/diverging lenses and convex/concave mirrors. Use a ray diagram to determine the approximate location and size of the image, and the mirror equation to obtain numerical information about image distance and image size.</p>

<u>SC.912.P.10.3:</u>	Compare and contrast work and power qualitatively and quantitatively.
<u>SC.912.P.10.6:</u>	<p>Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.</p> <p>Remarks/Examples</p> <p>Construct and interpret potential energy diagrams for endothermic and exothermic chemical reactions, and for rising or falling objects. Describe the transformation of energy as a pendulum swings.</p>
<u>SC.912.P.10.9:</u>	<p>Describe the quantization of energy at the atomic level.</p> <p>Remarks/Examples</p> <p>Explain that when electrons transition to higher energy levels they absorb energy, and when they transition to lower energy levels they emit energy. Recognize that spectral lines are the result of transitions of electrons between energy levels that correspond to photons of light with an energy and frequency related to the energy spacing between levels (Planck's relationship $E = hv$).</p>
<u>SC.912.P.12.10:</u>	<p>Interpret the behavior of ideal gases in terms of kinetic molecular theory.</p> <p>Remarks/Examples</p> <p>Using the kinetic molecular theory, explain the behavior of gases and the relationship between pressure and volume (Boyle's law), volume and temperature (Charles's law), pressure and temperature (Gay-Lussac's law), and number of particles in a gas sample (Avogadro's hypothesis).</p>
<u>SC.912.P.12.11:</u>	<p>Describe phase transitions in terms of kinetic molecular theory.</p> <p>Remarks/Examples</p> <p>Explain, at the molecular level, the behavior of matter as it undergoes phase transitions.</p>
<u>SC.912.P.12.12:</u>	<p>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.</p> <p>Remarks/Examples</p> <p>Various factors could include: temperature, pressure, solvent and/or solute concentration, sterics, surface area, and catalysts. The rate of reaction is determined by the activation energy, and the pathway of the reaction can be shorter in the presence of enzymes or catalysts.</p>

	<p>Examples may include: decomposition of hydrogen peroxide using manganese (IV) oxide; nitration of benzene using concentrated sulfuric acid; hydrogenation of a C=C double bond using nickel.</p>
<u>SC.912.P.12.13:</u>	<p>Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.</p> <p>Remarks/Examples</p> <p>Identify and explain the factors that affect the rate of dissolving (e.g., temperature, concentration, surface area, pressure, mixing). Explain that equilibrium is established when forward and reverse-reaction rates are equal.</p>
<u>SC.912.P.12.5:</u>	<p>Apply the law of conservation of linear momentum to interactions, such as collisions between objects.</p> <p>Remarks/Examples</p> <p>(e.g. elastic and completely inelastic collisions).</p>
<u>SC.912.P.12.6:</u>	<p>Qualitatively apply the concept of angular momentum.</p> <p>Remarks/Examples</p> <p>Explain that angular momentum is rotational analogy to linear momentum (e.g. Because angular momentum is conserved, a change in the distribution of mass about the axis of rotation will cause a change in the rotational speed [ice skater spinning]).</p>
<u>SC.912.P.12.7:</u>	<p>Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.</p> <p>Remarks/Examples</p> <p>Recognize that regardless of the speed of an observer or source, <i>in a vacuum</i> the speed of light is always c.</p>
<u>SC.912.P.12.9:</u>	<p>Recognize that time, length, and energy depend on the frame of reference.</p> <p>Remarks/Examples</p> <p>The energy E and the momentum p depend on the frame of reference in which they are measured (e.g. Lorentz contraction).</p>
<u>SC.912.P.8.10:</u>	<p>Describe oxidation-reduction reactions in living and non-living systems.</p>

	Remarks/Examples
	Identify the substance(s) losing and gaining electrons in oxidation-reduction reactions. Discuss voltaic cells, various types of batteries, electrolysis of water, smelting and purification of metals, electrolysis of brine versus molten NaCl, neutralization reactions, electrolytic cells, and living systems (photosynthesis and cellular respiration).

RELATED GLOSSARY TERM DEFINITIONS (90)

Abiotic:	An environmental factor not associated with or derived from living organisms.
Acid:	A substance that increases the H ⁺ concentration when added to a water solution Acids turn blue litmus paper red, have a pH of less than 7, and their aqueous solutions react with bases and certain metals to form salts.
Activation energy:	The least amount of energy required to start a particular chemical reaction.
Adenosine triphosphate (ATP):	An organic compound that is composed of adenosine and three phosphate groups. It serves as a source of energy for many metabolic processes. ATP releases energy when it is broken down into ADP and phosphate by hydrolysis during cell metabolism.
Anatomy:	The scientific study of the shape and structure of organisms and their parts.
Angular momentum:	A vector quantity that is a measure of the rotational momentum of a rotating body or system, that is equal in classical physics to the product of the angular velocity of the body or system and its moment of inertia with respect to the rotation axis, and that is directed along the rotation axis.
Aquatic:	In or on the water
Atmosphere:	The layers of gas that surround Earth, other planets, or stars.

Axis:	The imaginary line on which an object rotates (e.g., Earth's axis runs through Earth between the North Pole and the South Pole); an imaginary straight line that runs through a body; a reference to the line in a coordinate system or graph.
Biotechnology:	The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals).
Biotic:	Factors in an environment relating to, caused by, or produced by living organisms.
Catalyst:	A substance that speeds up or slows down the rate of a reaction without being consumed or altered.
Cell:	The smallest structural unit of an organism that is capable of independent functioning, consisting of cytoplasm and various organelles, all surrounded by a semipermeable cell membrane, which in some cells, is surrounded by a cell wall
Concentration:	The relative amount of a particular substance, a solute, or mixture.
Conduction:	To transmit heat, sound, or electricity through a medium.
Consumer:	An organism that feeds on other organisms for food.
Current :	The amount of electric charge flowing past a specified circuit point per unit time.
Decomposer :	Any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms.
Dissolve:	To cause to pass into solution.
Diversity:	The different species in a given area or specific period of time.
DNA:	Deoxyribonucleic acid; a nucleic acid that is genetic material; present in all organisms.
Dune:	A hill or ridge of sand piled up by the wind.
Electric field:	A region associated with a distribution of electric charge or a varying magnetic field in which forces due to that charge or field act upon other electric charges.
Electric potential:	A measure of the work required by an electric field to move electric charges.
Electromagnetic	The emission and propagation of the entire range of the

radiation:	electromagnetic spectrum, including: gamma rays, x-rays, ultraviolet radiation, visible light, microwaves, and radio waves.
Electromagnetic spectrum:	The entire range of electromagnetic radiation. At one end of the spectrum are gamma rays, which have the shortest wavelengths and high frequencies. At the other end are radio waves, which have the longest wavelengths and low frequencies. Visible light is near the center of the spectrum.
Electron:	A stable elementary particle in the lepton family having a mass at rest of 9.107×10^{-28} grams and an electric charge of approximately -1.602×10^{-19} coulombs. Electrons orbit about the positively charged nuclei of atoms in distinct orbitals of different energy levels, called shells.
Embryology:	The branch of biology that deals with the formation, early growth, and development of living organisms.
Energy:	The capacity to do work.
Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
Enzyme:	Any of numerous proteins produced in living cells that accelerate or catalyze chemical reactions.
Erosion:	The wearing away of Earth's surface by the breakdown and transportation of rock and soil.
Evolution :	A theory that the various types of species arise from pre-existing species and that distinguishable characteristics are due to modifications through successive generations.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Fertilization:	The process by which the female reproductive cell (egg) is united with the male reproductive cell (sperm).
Fission :	The process by which an atomic nucleus splits into two or more large fragments of comparable mass, simultaneously producing additional neutrons and vast amounts of energy; or, a process by which single-cell organisms reproduce asexually.
Force:	A vector quantity that exists between two objects and, when unbalanced by another force, causes changes in velocity of objects in the direction of its application; a push or pull.

Fossil:	A whole or part of an organism that has been preserved in sedimentary rock.
Frame of reference:	A set of coordinate axes in terms of which position or movement may be specified or with reference to which physical laws may be mathematically stated.
Freeze:	To pass from the liquid to the solid state by loss of heat from the substance/system.
Frequency:	The number of cycles or waves per unit time.
Fusion :	The process by which two lighter atomic nuclei combine at extremely high temperatures to form a heavier nucleus and release vast amounts of energy.
Gamete:	A reproductive cell having the haploid number of chromosomes, especially a mature sperm or egg capable of fusing with a gamete of the opposite sex to produce the fertilized egg.
Gas:	One of the fundamental states of matter in which the molecules do not have a fixed volume or shape.
Genetic:	Affecting or determined by genes.
Heat:	Energy that transfers between substances because of a temperature difference between the substances; the transfer of energy is always from the warmer substance to the cooler substance
Heredity:	The passage of biological traits or characteristics from parents to offspring through the inheritance of genes.
Hominid:	A group of primates of the family Hominidae, which includes modern humans.
Hypothesis :	A tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation.
Inference :	The act of reasoning from factual knowledge or evidence.
Infrared :	Relating to the invisible part of the electromagnetic spectrum with wavelengths longer than those of visible red light but shorter than those of microwaves.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Latitude:	A measure of relative position north or south on the Earth's surface, measured in degrees from the equator, which has a latitude of 0°.

	with the poles having a latitude of 90° north and south.
Law :	A statement that describes invariable relationships among phenomena under a specified set of conditions.
Light:	Electromagnetic radiation that lies within the visible range.
Magnet:	An object that produces a magnetic field and that has the property, either natural or induced, of attracting iron or steel.
Magnetic:	Having the property of attracting iron and certain other materials by virtue of a field of force.
Magnetic field:	The region where magnetic force exists around magnets or electric currents.
Mass:	The amount of matter an object contains.
Matter:	Substance that possesses inertia and occupies space, of which all objects are constituted.
Metal:	Any of a category of electropositive elements that usually have a shiny surface, are generally good conductors of heat and electricity, and can be melted or fused, hammered into thin sheets, or drawn into wires.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Momentum:	A vector quantity that is the product of an object's mass and velocity.
Motion:	The act or process of changing position and/or direction.
Mutation:	A change in genetic sequence.
Natural selection:	The theory stating every organism displays slight variations from related organisms, and these variations make an organism more or less suited for survival and reproduction in specific habitats.
Nonrenewable resource:	A resource that can only be replenished over millions of years.
Nuclear reaction:	A process, such as fission, fusion, or radioactive decay, in which the structure of an atomic nucleus is altered through release of energy or mass or by being broken apart.

Observation :	What one has observed using senses or instruments.
Offspring:	The progeny or descendants of an animal or plant considered as a group.
Orbit:	A path described by one body in its revolution about another (as by the earth about the sun or by an electron about an atomic nucleus).
Organism:	An individual form of life of one or more cells that maintains various vital processes necessary for life.
Physiology:	The scientific study of an organism's vital functions, including growth, development, reproduction, the absorption and processing of nutrients, the synthesis and distribution of proteins and other organic molecules, and the functioning of different tissues, organs, and other anatomic structures.
Pollution:	Any alteration of the natural environment producing a condition harmful to living organisms; may occur naturally or as a result of human activities.
Potential energy:	Energy stored in a physical system due to the object's configuration and position.
Power:	The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.
Producer :	An organism, usually a plant or bacterium, that produces organic compounds from simple inorganic molecules and energy (typically light energy) from the environment.
Radiation:	Emission of energy in the form of rays or waves.
Reproductive system:	The system of organs involved with animal reproduction, especially sexual reproduction.
Scientist:	A person with expert knowledge of one or more sciences, that engages in processes to acquire and communicate knowledge.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Speed of light:	A fundamental physical constant that is the speed at which electromagnetic radiation propagates in a vacuum and that has a value fixed by international convention of 299,792,458 meters per second.
Theory :	A set of statements or principles devised to explain a group of facts

	or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena.
Ultraviolet :	Relating to electromagnetic radiation having frequencies higher than those of visible light but lower than those of x-rays, approximately 10^{15} - 10^{16} hertz.
Vacuum:	A space empty of matter.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.
Volume:	A measure of the amount of space an object takes up; also the loudness of a sound or signal.
Wavelength:	The distance between crests of a wave.
X-ray:	A high-energy stream of electromagnetic radiation having a frequency higher than that of ultraviolet light but less than that of a gamma ray (in the range of approximately 10^{16} - 10^{19} hertz).



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	<p>the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.</p>
<u>PE.912.C.2.10:</u>	Analyze long-term benefits of regularly participating in physical activity.
<u>PE.912.C.2.11:</u>	<p>Explain how each of the health-related components of fitness are improved through the application of training principles.</p> <p>Remarks/Examples</p> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<u>PE.912.C.2.12:</u>	Compare and contrast aerobic versus anaerobic activities.
<u>PE.912.C.2.13:</u>	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
<u>PE.912.C.2.14:</u>	<p>Compare and contrast the skill-related components of fitness used in various physical activities.</p> <p>Remarks/Examples</p> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<u>PE.912.C.2.15:</u>	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
<u>PE.912.C.2.16:</u>	<p>Explain the methods of monitoring levels of intensity during aerobic activity.</p> <p>Remarks/Examples</p> <p>Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.</p>
<u>PE.912.C.2.17:</u>	<p>Assess physiological effects of exercise during and after physical activity.</p> <p>Remarks/Examples</p> <p>Some examples are breathing, resting heart rate and blood pressure.</p>
<u>PE.912.C.2.18:</u>	Differentiate between fact and fallacy as it relates to consumer

	<p>physical fitness products and programs.</p> <p>Remarks/Examples</p> <p>Some examples are weight-loss pills, food labels and exercise equipment.</p>
<u>PE.912.C.2.22:</u>	<p>Explain the skill-related components of fitness and how they enhance performance levels.</p> <p>Remarks/Examples</p> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<u>PE.912.C.2.23:</u>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.</p>
<u>PE.912.C.2.25:</u>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.</p>
<u>PE.912.C.2.27:</u>	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<u>PE.912.C.2.6:</u>	<p>Compare and contrast the health-related benefits of various physical activities.</p>
<u>PE.912.C.2.7:</u>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities.</p>
<u>PE.912.C.2.8:</u>	<p>Differentiate between the three different types of heat illnesses associated with fluid loss.</p> <p>Remarks/Examples</p> <p>The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.</p>
<u>PE.912.C.2.9:</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>

<u>PE.912.L.3.1:</u>	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
<u>PE.912.L.3.2:</u>	Participate in a variety of activities that promote the health-related components of fitness. Remarks/Examples The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
<u>PE.912.L.3.3:</u>	Identify a variety of activities that promote effective stress management.
<u>PE.912.L.3.4:</u>	Identify the in-school opportunities for participation in a variety of physical activities.
<u>PE.912.L.3.5:</u>	Identify the community opportunities for participation in a variety of physical activities.
<u>PE.912.L.3.6:</u>	Identify risks and safety factors that may affect physical activity throughout life.
<u>PE.912.L.4.1:</u>	Design a personal fitness program. Remarks/Examples Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
<u>PE.912.L.4.2:</u>	Identify ways to self-assess and modify a personal fitness program.
<u>PE.912.L.4.3:</u>	Identify strategies for setting goals when developing a personal fitness program.
<u>PE.912.L.4.4:</u>	Use available technology to assess, design and evaluate a personal fitness program.
<u>PE.912.L.4.5:</u>	Apply the principles of training to personal fitness goals. Remarks/Examples Some examples of training principles are overload, specificity and progression.
<u>PE.912.L.4.6:</u>	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance,

	flexibility and body composition.
<u>PE.912.L.4.7:</u>	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
<u>PE.912.M.1.12:</u>	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. Remarks/Examples An example is performing plyometrics.
<u>PE.912.M.1.14:</u>	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. Remarks/Examples Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
<u>PE.912.M.1.15:</u>	Select and apply sport/activity specific warm-up and cool-down techniques.
<u>PE.912.M.1.16:</u>	Apply the principles of training and conditioning to accommodate individual needs and strengths. Remarks/Examples Some examples of training principles are overload, specificity and progression.
<u>PE.912.M.1.17:</u>	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures.
<u>PE.912.M.1.19:</u>	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
<u>PE.912.M.1.33:</u>	Practice complex motor activities in order to improve performance.
<u>PE.912.M.1.34:</u>	Demonstrate use of the mechanical principles as they apply to specific course activities. Remarks/Examples Some examples are balance, force and leverage.
<u>PE.912.M.1.35:</u>	Select proper equipment and apply all appropriate safety procedures necessary for participation.

<u>PE.912.R.5.2:</u>	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
<u>PE.912.R.5.3:</u>	Demonstrate sportsmanship during game situations. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
<u>PE.912.R.5.4:</u>	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Remarks/Examples Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
<u>PE.912.R.5.5:</u>	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
<u>PE.912.R.6.1:</u>	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
<u>PE.912.R.6.2:</u>	Analyze physical activities from which benefits can be derived. Remarks/Examples Some examples of potential benefits are physical, mental, emotional and social.
<u>PE.912.R.6.3:</u>	Analyze the roles of games, sports and/or physical activities in other cultures.

[HE.912.C.1 Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.](#)

[HE.912.C.1.2 :](#)

Interpret the significance of interrelationships in mental/emotional, physical, and social health.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.](#)

Remarks/Examples

Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.

[HE.912.C.1.4 :](#)

Propose strategies to reduce or prevent injuries and health problems.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.](#)

Remarks/Examples

Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.

[HE.912.C.1.5 :](#)

Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.](#)

Remarks/Examples

Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.

[HE.912.C.1.7 :](#)

Analyze how heredity and family history can impact personal health.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.](#)

Remarks/Examples

Drug use, family obesity, heart disease, mental health, and non-

	communicable illness or disease.
<p><u>HE.912.C.1.8 :</u></p>	<p>Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. Cognitive Complexity: N/A Date Adopted or Revised: N/A Belongs to: Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health. Remarks/Examples</p> <p>Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.</p>
<p><u>HE.912.C.2 Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</u></p>	
<p><u>HE.912.C.2.1 :</u></p>	<p>Analyze how the family influences the health of individuals. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. Remarks/Examples</p> <p>Nutritional management of meals, composition of and relationships within families, and health-insurance status.</p>
<p><u>HE.912.C.2.2 :</u></p>	<p>Compare how peers influence healthy and unhealthy behaviors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. Remarks/Examples</p> <p>Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.</p>
<p><u>HE.912.C.2.3 :</u></p>	<p>Assess how the school and community can affect personal health practice and behaviors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. Remarks/Examples</p>

	<p>Healthier foods, required health education, health screenings, and enforcement of “no tolerance” policies related to all forms of violence, and AED availability and training.</p>
<p><u>HE.912.C.2.4 :</u></p>	<p>Evaluate how public health policies and government regulations can influence health promotion and disease prevention. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</u> Remarks/Examples</p> <p>Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.</p>
<p><u>HE.912.C.2.5 :</u></p>	<p>Evaluate the effect of media on personal and family health. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</u> Remarks/Examples</p> <p>Compares brand-name/store-brand items in home, analyzes television viewing habits, identifies effective PSAs, consumer skills, advertisements of health-related community resources, participation in risky behaviors, and deconstructs media to identify promotion of unhealthy stereotypes, and normalization of violence.</p>
<p><u>HE.912.C.2.6 :</u></p>	<p>Evaluate the impact of technology on personal, family, and community health. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</u> Remarks/Examples</p> <p>Automated external defibrillator in the community, pedestrian crosswalks with audible directions, type of information requested from local 211/hotlines or websites, consumer websites, Internet safety, and disease prevention and control.</p>
<p><u>HE.912.C.2.7 :</u></p>	<p>Analyze how culture supports and challenges health beliefs, practices, and behaviors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Internal and External Influence - Analyze the influence of family,</u></p>

	<p>peers, culture, media, technology, and other factors on health behaviors.</p> <p>Remarks/Examples</p> <p>Various cultures' dietary patterns, rites of passage, courtship practices, family roles, personal relationships, ethics, and parenting.</p>
<p>HE.912.C.2.8 :</p>	<p>Analyze how the perceptions of norms influence healthy and unhealthy behaviors.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</p> <p>Remarks/Examples</p> <p>Driving over the speed limit, teen parenting, binge drinking, relationships, parenting, health information, environmental practices, and media messages.</p>
<p>HE.912.C.2.9 :</p>	<p>Evaluate the influence of personal values, attitudes, and beliefs about individual health practices and behaviors.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Internal and External Influence - Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</p> <p>Remarks/Examples</p> <p>Social conformity, self-discipline, and impulse vs. delayed gratification.</p>
<p>HE.912.P.7 Self Management - Demonstrate the ability to practice advocacy, health-enhancing behaviors, and avoidance or reduction of health risks for oneself.</p>	
<p>HE.912.P.7.1 :</p>	<p>Analyze the role of individual responsibility in enhancing health.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: N/A</p> <p>Belongs to: Self Management - Demonstrate the ability to practice advocacy, health-enhancing behaviors, and avoidance or reduction of health risks for oneself.</p> <p>Remarks/Examples</p> <p>Food choices, media messages, future impact of lifestyle choices, individual responsibility for health protection, and stress management.</p>
<p>HE.912.P.7.2 :</p>	<p>Evaluate healthy practices and behaviors that will maintain or</p>

	<p>improve health and reduce health risks. Cognitive Complexity: N/A Date Adopted or Revised: N/A Belongs to: Self Management - Demonstrate the ability to practice advocacy, health-enhancing behaviors, and avoidance or reduction of health risks for oneself. Remarks/Examples</p> <p>Lifestyle choices: drug use/abuse, healthy diet, controlling modes of transmission of infectious agents, riding with impaired drivers, seeking mental-health services when needed, sexual behavior, and engaging in healthy relationships.</p>
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[HE.912.P.8 Advocacy - Demonstrate the ability to advocate for individual, peer, school, family, and community health.](#)

<u>HE.912.P.8.1 :</u>	<p>Demonstrate how to influence and support others in making positive health choices. Cognitive Complexity: N/A Date Adopted or Revised: N/A Belongs to: Advocacy - Demonstrate the ability to advocate for individual, peer, school, family, and community health. Remarks/Examples</p> <p>Avoidance of underage drinking, prevention of driving under the influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.</p>
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<u>HE.912.P.8.3 :</u>	<p>Work cooperatively as an advocate for improving personal, family, and community health. Cognitive Complexity: N/A Date Adopted or Revised: N/A Belongs to: Advocacy - Demonstrate the ability to advocate for individual, peer, school, family, and community health. Remarks/Examples</p> <p>Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.</p>
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[LACC.910.L.3 Vocabulary Acquisition and Use](#)

<u>LACC.910.L.3.6 :</u>	Acquire and use accurately general academic and domain-specific
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words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Vocabulary Acquisition and Use](#)

[LACC.910.RL.2 Craft and Structure](#)

[LACC.910.RL.2.4 :](#)

Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Craft and Structure](#)

[LACC.910.SL.1 Comprehension and Collaboration](#)

[LACC.910.SL.1.1 :](#)

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when

warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.10 :](#)

Analyze long-term benefits of regularly participating in physical activity.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.11 :](#)

Explain how each of the health-related components of fitness are improved through the application of training principles.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

	<p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<p><u>PE.912.C.2.12 :</u></p>	<p>Compare and contrast aerobic versus anaerobic activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</u></p>
<p><u>PE.912.C.2.13 :</u></p>	<p>Document food intake, calories consumed and energy expended through physical activity and analyze the results. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</u></p>
<p><u>PE.912.C.2.14 :</u></p>	<p>Compare and contrast the skill-related components of fitness used in various physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</u></p> <p>Remarks/Examples</p> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.15 :</u></p>	<p>Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</u></p>
<p><u>PE.912.C.2.16 :</u></p>	<p>Explain the methods of monitoring levels of intensity during aerobic activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</u></p> <p>Remarks/Examples</p> <p>Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.</p>

<p><u>PE.912.C.2.17 :</u></p>	<p>Assess physiological effects of exercise during and after physical activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are breathing, resting heart rate and blood pressure.</p>
<p><u>PE.912.C.2.18 :</u></p>	<p>Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are weight-loss pills, food labels and exercise equipment.</p>
<p><u>PE.912.C.2.22 :</u></p>	<p>Explain the skill-related components of fitness and how they enhance performance levels. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.27 :</u></p>	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<p><u>PE.912.C.2.6 :</u></p>	<p>Compare and contrast the health-related benefits of various physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.8 :</u></p>	<p>Differentiate between the three different types of heat illnesses associated with fluid loss. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.</p>
<p><u>PE.912.C.2.9 :</u></p>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical</p>

	<p>principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
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[PE.912.L.3 Participate regularly in physical activity.](#)

<u>PE.912.L.3.1 :</u>	<p>Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.2 :</u>	<p>Participate in a variety of activities that promote the health-related components of fitness.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p> <p>Remarks/Examples</p> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.4 :</u>	<p>Identify the in-school opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.5 :</u>	<p>Identify the community opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>

[PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

<p><u>PE.912.L.4.1 :</u></p>	<p>Design a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness. Remarks/Examples</p> <hr/> <p>Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.</p>
<p><u>PE.912.L.4.2 :</u></p>	<p>Identify ways to self-assess and modify a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.L.4.3 :</u></p>	<p>Identify strategies for setting goals when developing a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.L.4.4 :</u></p>	<p>Use available technology to assess, design and evaluate a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.L.4.5 :</u></p>	<p>Apply the principles of training to personal fitness goals. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness. Remarks/Examples</p> <hr/> <p>Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.L.4.6 :</u></p>	<p>Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.L.4.7 :</u></p>	<p>Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.</p>

Course: Critical Thinking and Study Skills-1700370

Direct link to this

page:<http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3864.aspx>

BASIC INFORMATION

Course Title:	Critical Thinking and Study Skills
Course Number:	1700370
Course Abbreviated Title:	CRIT THINK ST SKLS
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	This course is designed to develop skills related to critical thinking, learning and problem solving, enabling students to enhance their performance in both academic and non-academic areas. Strategies for acquiring, storing and retrieving information, time management and organizational skills, critical thinking operations and processes, strategies for oral and written communication, and problem solving skills including test taking skills are an integral part of this course.

STANDARDS (24)

LACC.910.SL.1.1: Initiate and participate effectively in a range of collaborative discussions

(one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others ideas and expressing their own clearly and persuasively.

LACC.910.W.1.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

LACC.910.W.1.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

<u>LACC.910.RH.1.1:</u>	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
<u>LACC.910.RH.1.2:</u>	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
<u>LACC.910.RH.2.5:</u>	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
<u>LACC.910.RH.3.8:</u>	Assess the extent to which the reasoning and evidence in a text support the author’s claims.
<u>LACC.910.RI.1.1:</u>	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
<u>LACC.910.RI.2.4:</u>	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
<u>LACC.910.RI.2.6:</u>	Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
<u>LACC.910.RI.3.7:</u>	Analyze various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.
<u>LACC.910.RI.3.8:</u>	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
<u>LACC.910.RST.1.1:</u>	Cite specific textual evidence to support analysis of science and

	technical texts, attending to the precise details of explanations or descriptions.
<u>LACC.910.RST.1.2:</u>	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
<u>LACC.910.RST.2.6:</u>	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
<u>LACC.910.SL.1.2:</u>	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
<u>LACC.910.SL.2.4:</u>	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
<u>LACC.910.W.2.4:</u>	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
<u>LACC.910.W.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10.)
<u>LACC.910.W.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
<u>MACC.K12.MP.1.1:</u>	<p>Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler</p>

forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MACC.K12.MP.3.1:

Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

<p><u>MACC.K12.MP.6.1:</u></p>	<p>Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>
<p><u>SS.912.P.11.12:</u></p>	<p>Discuss strategies for improving the retrieval of memories.</p>
<p><u>SS.912.P.11.3:</u></p>	<p>Discuss strategies for improving the encoding of memory.</p>
<p><u>SS.912.P.11.7:</u></p>	<p>Discuss strategies for improving the storage of memories.</p>
<p><u>SS.912.P.12.2:</u></p>	<p>Define processes involved in problem solving and decision making. Remarks/Examples</p> <p>Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.</p>



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Course: Florida's Preinternational Baccalaureate Inquiry Skills- 1700360

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BASIC INFORMATION

Course Title:	Florida's Preinternational Baccalaureate Inquiry Skills
Course Number:	1700360
Course Abbreviated Title:	FL PRE-IB INQ SKILLS
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	The purpose of this course is to study the development of short and long-term educational goals, the nature of learning, the nature of study skills, strategies for specific study skills improvement and improvement in content areas, the problems associated with critical thinking and their solutions, problem solving, group-discussion guidelines, the interdisciplinary nature of knowledge, and research skills. In addition, the purpose of this Pre-IB course is to prepare students for the International Baccalaureate Diploma Programme (DP). As such, this course will provide academic rigor and relevance through a comprehensive curriculum based on the Next Generation Sunshine State Standards (Common Core) taught with reference to the unique facets of the IB. These facets include interrelatedness of subject areas, holistic view of knowledge, intercultural awareness embracing international issues, and communication as fundamental

to learning. Instructional design must provide students with values and opportunities that enable them to develop respect for others and an appreciation of similarities and differences. Learning how to learn and how to critically evaluate information is as important as the content of the disciplines themselves.

Special Note: Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course." Source: What is meant by "the pre-IB"? <http://www.ibo.org/myp/curriculum/group6/> Published: 12/06/2010; Updated: 05/23/2011

STANDARDS (34)

LACC.910.W.1.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

LACC.910.W.3.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

The Common Core Mathematical Practices should be incorporated as appropriate.

[LACC.910.RH.3 Integration of Knowledge and Ideas](#)

[LACC.910.RH.3.7 :](#)

Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

	<p>Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Integration of Knowledge and Ideas</p>
<u>LACC.910.RH.3.8 :</u>	<p>Assess the extent to which the reasoning and evidence in a text support the author’s claims. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Integration of Knowledge and Ideas</p>
<u>LACC.910.RH.3.9 :</u>	<p>Compare and contrast treatments of the same topic in several primary and secondary sources. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Integration of Knowledge and Ideas</p>

LACC.910.RI.1 Key Ideas and Details

<u>LACC.910.RI.1.1 :</u>	<p>Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 12/10 Belongs to: Key Ideas and Details</p>
<u>LACC.910.RI.1.2 :</u>	<p>Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 12/10 Belongs to: Key Ideas and Details</p>

LACC.910.RI.2 Craft and Structure

<u>LACC.910.RI.2.6 :</u>	<p>Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Craft and Structure</p>
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LACC.910.RI.3 Integration of Knowledge and Ideas

<u>LACC.910.RI.3.7 :</u>	<p>Analyze various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia),</p>
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	<p>determining which details are emphasized in each account. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 12/10 Belongs to: Integration of Knowledge and Ideas</p>
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<p><u>LACC.910.RI.3.8 :</u></p>	<p>Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Integration of Knowledge and Ideas</p>
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LACC.910.RST.2 Craft and Structure

<p><u>LACC.910.RST.2.6 :</u></p>	<p>Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 12/10 Belongs to: Craft and Structure</p>
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LACC.910.SL.1 Comprehension and Collaboration

<p><u>LACC.910.SL.1.2 :</u></p>	<p>Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Comprehension and Collaboration</p>
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<p><u>LACC.910.SL.1.3 :</u></p>	<p>Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Comprehension and Collaboration</p>
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LACC.910.W.1 Text Types and Purposes

<p><u>LACC.910.W.1.1a :</u></p>	<p>Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. Cognitive Complexity: 0 Date Adopted or Revised: 0 Belongs to: Text Types and Purposes</p>
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LACC.910.W.1.1b :

Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

LACC.910.W.1.1d :

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

LACC.910.W.1.1e :

Provide a concluding statement or section that follows from and supports the argument presented.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

LACC.910.W.1.2a :

Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

LACC.910.W.1.2f :

Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

SS.912.P.11 Cognition Domain/Memory

SS.912.P.11.7 :

Discuss strategies for improving the storage of memories.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Cognition Domain/Memory](#)

SS.912.P.11.12 :

Discuss strategies for improving the retrieval of memories.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Cognition Domain/Memory](#)

SS.912.P.11.3 :

Discuss strategies for improving the encoding of memory.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Cognition Domain/Memory](#)

SS.912.P.12 Cognition Domain/Thinking

[SS.912.P.12.1 :](#)

Define cognitive processes involved in understanding information.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Cognition Domain/Thinking](#)

Remarks/Examples

Examples may include, but are not limited to, encoding, storage, and retrieval.

[SS.912.P.12.2 :](#)

Define processes involved in problem solving and decision making.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Cognition Domain/Thinking](#)

Remarks/Examples

Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.

[SS.912.P.12.5 :](#)

Describe obstacles to decision making.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Cognition Domain/Thinking](#)

Remarks/Examples

Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.

[LACC.910.W.2 Production and Distribution of Writing](#)

[LACC.910.W.2.4 :](#)

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

[LACC.910.W.2.5 :](#)

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

[LACC.910.W.2.6 :](#)

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of

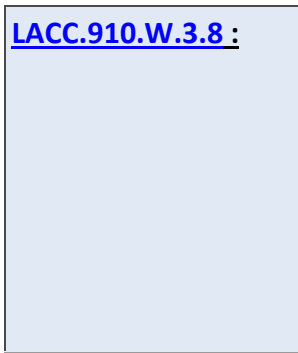


technology’s capacity to link to other information and to display information flexibly and dynamically.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

[LACC.910.W.3 Research to Build and Present Knowledge](#)

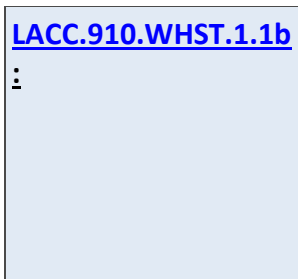


Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Cognitive Complexity: Level 4: Extended Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Research to Build and Present Knowledge](#)

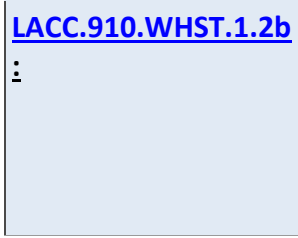
[LACC.910.WHST.1 Text Types and Purposes](#)



Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

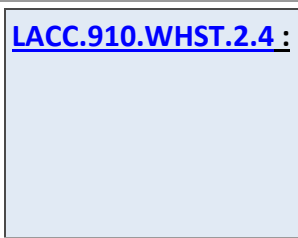


Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

[LACC.910.WHST.2 Production and Distribution of Writing](#)



Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)



Develop and strengthen writing as needed by planning, revising,

editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

[LACC.910.WHST.3 Research to Build and Present Knowledge](#)

[LACC.910.WHST.3.7 :](#)

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Cognitive Complexity: Level 4: Extended Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Research to Build and Present Knowledge](#)

[LACC.910.WHST.3.8 :](#)

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Cognitive Complexity: Level 4: Extended Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Research to Build and Present Knowledge](#)

[SC.912.N.4 Science and Society](#)

[SC.912.N.4.2 :](#)

Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 02/08

Belongs to: [Science and Society](#)

Remarks/Examples

Identify examples of technologies, objects, and processes that have been modified to advance society, and explain why and how they were modified. Discuss ethics in scientific research to advance society (e.g. global climate change, historical development of medicine and medical practices).

CCSS Connections: MACC.K12.MP.1: Make sense of problems and

	persevere in solving them, and MACC.K12.MP.2: Reason abstractly and quantitatively.
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RELATED GLOSSARY TERM DEFINITIONS (1)

Environment:	The sum of conditions affecting an organism, including all living and nonliving things in an area, such as plants, animals, water, soil, weather, landforms, and air.
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Course: Research 3- 1700320

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BASIC INFORMATION

Course Title:	Research 3
Course Number:	1700320
Course Abbreviated Title:	RESEARCH 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	<p>The purpose of this course is to enable students to develop proficient knowledge and skills in the research process with emphasis on appropriate research design.</p> <p>The content should include, but not be limited to, the following:</p> <ul style="list-style-type: none">• research process• experimental, descriptive, and historical research• research design and methodology• legal and ethical issues in research• research questions and hypotheses• review of literature and other resources• data collection, analysis, and statistics• report formats, styles, and content• investigations• critical analysis of research

STANDARDS (32)

LACC.1112.L.1.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.1112.L.1.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

LACC.1112.SL.1.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others ideas and expressing their own clearly and persuasively.

LACC.1112.W.3.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

LACC.1112.WHST.1.1: Write arguments focused on discipline-specific content.

LACC.1112.WHST.1.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

The Common Core Mathematical Practices should be incorporated as appropriate.

LACC.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LACC.1112.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
LACC.1112.RI.1.2:	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
LACC.1112.RI.2.6:	Determine an author’s point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
LACC.1112.RI.3.7:	Integrate and evaluate multiple sources of information presented in

	different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
<u>LACC.1112.RI.3.8:</u>	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
<u>LACC.1112.RST.2.6:</u>	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
<u>LACC.1112.SL.1.2:</u>	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
<u>LACC.1112.SL.2.4:</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
<u>LACC.1112.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.1112.W.1.1b:</u>	Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience’s knowledge level, concerns, values, and possible biases.
<u>LACC.1112.W.1.1c:</u>	Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
<u>LACC.1112.W.1.2a:</u>	Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

<u>LACC.1112.W.1.2b:</u>	Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
<u>LACC.1112.W.1.2e:</u>	Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
<u>LACC.1112.W.1.2f:</u>	Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
<u>LACC.1112.W.2.4:</u>	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
<u>LACC.1112.W.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 11–12.)
<u>LACC.1112.W.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
<u>LACC.1112.W.3.7:</u>	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
<u>LACC.1112.W.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
<u>LACC.1112.WHST.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
<u>LACC.1112.WHST1.1a:</u>	Introduce precise, knowledgeable claim(s), establish the significance

	of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
LACC.1112.WHST1.1c:	Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
LACC.1112.WHST1.1d:	Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
LACC.1112.WHST1.2d:	Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
LACC.1112.WHST1.2e:	Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
SS.912.P.12.1:	Define cognitive processes involved in understanding information. Remarks/Examples Examples may include, but are not limited to, encoding, storage, and retrieval.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: <ol style="list-style-type: none"> 1. Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. Examine books and other sources of information to see what is already known, 4. Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or

develop new models).

5. **Plan investigations,** (Design and evaluate a scientific investigation).
6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).
7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12
Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

	<p><u>For Students in Grades 11-12</u></p> <p>LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p>LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>Common Core State Standards (CCSS) Connections for Mathematical Practices</p> <p>MACC.K12.MP.1: Make sense of problems and persevere in solving them.</p> <p>MACC.K12.MP.2: Reason abstractly and quantitatively.</p> <p>MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]</p> <p>MACC.K12.MP.4: Model with mathematics.</p> <p>MACC.K12.MP.5: Use appropriate tools strategically.</p> <p>MACC.K12.MP.6: Attend to precision.</p> <p>MACC.K12.MP.7: Look for and make use of structure.</p> <p>MACC.K12.MP.8: Look for and express regularity in repeated reasoning.</p>
<p><u>SC.912.N.1.7:</u></p>	<p>Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>Remarks/Examples</p> <p>Work through difficult problems using creativity, and critical and analytical thinking in problem solving (e.g. convergent versus divergent thinking and creativity in problem solving).</p> <p>CCSS Connections: MACC.K12.MP.1: Make sense of problems and persevere in solving them; and MACC.K12.MP.2: Reason abstractly and quantitatively.</p>

<p><u>SC.912.N.2.2:</u></p>	<p>Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>Remarks/Examples</p> <p>Identify scientific questions that can be disproved by experimentation/testing. Recognize that pseudoscience is a claim, belief, or practice which is presented as scientific, but does not adhere to strict standards of science (e.g. controlled variables, sample size, replicability, empirical and measurable evidence, and the concept of falsification).</p> <p>CCSS Connections: MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others.</p>
<p><u>SC.912.N.2.3:</u></p>	<p>Identify examples of pseudoscience (such as astrology, phrenology) in society.</p> <p>Remarks/Examples</p> <p>Determine if the phenomenon (event) can be observed, measured, and tested through scientific experimentation.</p>

RELATED GLOSSARY TERM DEFINITIONS (10)

Conduction:	To transmit heat, sound, or electricity through a medium.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Inference :	The act of reasoning from factual knowledge or evidence.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Light:	Electromagnetic radiation that lies within the visible range.
Microscope:	An instrument with lenses and light that is used to observe objects

	too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Observation :	What one has observed using senses or instruments.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.



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Course: Research 2- 1700310

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BASIC INFORMATION

Course Title:	Research 2
Course Number:	1700310
Course Abbreviated Title:	RESEARCH 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
General Notes:	<p>The purpose of this course is to enable students to develop basic knowledge and skills in the research process with emphasis on determining and refining research questions.</p> <p>The content should include, but not be limited to, the following:</p> <ul style="list-style-type: none">• research process• research topics• research questions and hypotheses• definition, analysis, and evaluation of research questions• review of literature and other resources• primary and secondary sources• formulation of hypotheses• organization of information• report formats, styles, and content• directed investigations -critical analysis of research

STANDARDS (26)

LACC.910.L.1.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.L.1.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

LACC.910.SL.1.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others ideas and expressing their own clearly and persuasively.

LACC.910.W.1.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

LACC.910.W.1.2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

LACC.910.W.1.3: Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

LACC.910.W.3.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

The Common Core Mathematical Practices should be incorporated as appropriate.

LACC.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LACC.910.RI.2.6:	Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LACC.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.
LACC.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text,

	assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
<u>LACC.910.RST.3.7:</u>	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
<u>LACC.910.SL.1.2:</u>	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
<u>LACC.910.SL.2.4:</u>	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
<u>LACC.910.SL.2.5:</u>	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
<u>LACC.910.W.1.1c:</u>	Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
<u>LACC.910.W.1.1d:</u>	Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
<u>LACC.910.W.1.2b:</u>	Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
<u>LACC.910.W.1.2c:</u>	Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
<u>LACC.910.W.1.2d:</u>	Use precise language and domain-specific vocabulary to manage the complexity of the topic.
<u>LACC.910.W.1.2e:</u>	Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
<u>LACC.910.W.1.2f:</u>	Provide a concluding statement or section that follows from and

	supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
<u>LACC.910.W.2.4:</u>	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
<u>LACC.910.W.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10.)
<u>LACC.910.W.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.
<u>LACC.910.W.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
<u>LACC.910.WHST.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
<u>LACC.910.WHST.3.7:</u>	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
<u>LACC.910.WHST.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
<u>SC.912.N.1.1:</u>	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts).
2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines).
3. **Examine books and other sources of information to see what is already known,**
4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models).
5. **Plan investigations,** (Design and evaluate a scientific investigation).
6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).
7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

Common Core State Standards (CCSS) Connections for Mathematical Practices

MACC.K12.MP.1: Make sense of problems and persevere in solving them.

MACC.K12.MP.2: Reason abstractly and quantitatively.

MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]

MACC.K12.MP.4: Model with mathematics.

MACC.K12.MP.5: Use appropriate tools strategically.

MACC.K12.MP.6: Attend to precision.

MACC.K12.MP.7: Look for and make use of structure.

MACC.K12.MP.8: Look for and express regularity in repeated reasoning.

<u>SC.912.N.1.4:</u>	Identify sources of information and assess their reliability according to the strict standards of scientific investigation. Remarks/Examples
	Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.
	CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.
<u>SC.912.N.1.5:</u>	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. Remarks/Examples
	Recognize that contributions to science can be made and have been made by people from all over the world.
<u>SS.912.P.12.1:</u>	Define cognitive processes involved in understanding information. Remarks/Examples
	Examples may include, but are not limited to, encoding, storage, and retrieval.

RELATED GLOSSARY TERM DEFINITIONS (10)

Conduction:	To transmit heat, sound, or electricity through a medium.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Inference :	The act of reasoning from factual knowledge or evidence.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Light:	Electromagnetic radiation that lies within the visible range.

Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and are often used in the construction of scientific theories.
Observation :	What one has observed using senses or instruments.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.



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Course: Research 1- 1700300

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BASIC INFORMATION

Course Title:	Research 1
Course Number:	1700300
Course Abbreviated Title:	RESEARCH 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Course length:	Year (Y)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	The purpose of this course is to enable students to develop fundamental knowledge of the steps in the research process.
General Notes:	<p>The purpose of this course is to enable students to develop fundamental knowledge of the steps in the research process.</p> <p>The content should include, but not be limited to, the following:</p> <ul style="list-style-type: none">• nature and purpose of research• research questions and hypotheses• research methods and procedures• review of literature and other resources• primary and secondary sources• directed investigations• organization of information• report formats, styles, and content• critical analysis of research

- submission of a major independent research project

STANDARDS (22)

LACC.910.L.1.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

LACC.910.W.1.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

LACC.910.RI.1 Key Ideas and Details

LACC.910.RI.1.1 :

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date

Adopted or Revised: 12/10

Belongs to: [Key Ideas and Details](#)

LACC.910.RI.3 Integration of Knowledge and Ideas

LACC.910.RI.3.8 :

Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date

Adopted or Revised: 12/10

Belongs to: [Integration of Knowledge and Ideas](#)

LACC.910.SL.1 Comprehension and Collaboration

LACC.910.SL.1.2 :

Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[LACC.910.SL.2 Presentation of Knowledge and Ideas](#)

[LACC.910.SL.2.4 :](#)

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Presentation of Knowledge and Ideas](#)

[LACC.910.SL.2.5 :](#)

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Presentation of Knowledge and Ideas](#)

[LACC.910.W.1 Text Types and Purposes](#)

[LACC.910.W.1.1b :](#)

Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

[LACC.910.W.1.1d :](#)

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Cognitive Complexity: 0 | Date Adopted or Revised: 0
Belongs to: [Text Types and Purposes](#)

[LACC.910.W.2 Production and Distribution of Writing](#)

[LACC.910.W.2.4 :](#)

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

LACC.910.W.4 Range of Writing

LACC.910.W.4.10 :

Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date

Adopted or Revised: 12/10

Belongs to: [Range of Writing](#)

LACC.910.WHST.1 Text Types and Purposes

LACC.910.WHST.1.1a

:

Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

LACC.910.WHST.1.1e

:

Provide a concluding statement or section that follows from or supports the argument presented.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

LACC.910.WHST.1.2a

:

Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

LACC.910.WHST.1.2b

:

Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

LACC.910.WHST.1.2e

:

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Cognitive Complexity: 0 | Date Adopted or Revised: 0

Belongs to: [Text Types and Purposes](#)

LACC.910.WHST.2 Production and Distribution of Writing

LACC.910.WHST.2.5 :

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Production and Distribution of Writing](#)

LACC.910.WHST.3 Research to Build and Present Knowledge

LACC.910.WHST.3.8 :

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Cognitive Complexity: Level 4: Extended Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Research to Build and Present Knowledge](#)

MACC.K12.MP.1 Make sense of problems and persevere in solving them.

MACC.K12.MP.1.1 :

Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask

themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Make sense of problems and persevere in solving them.](#)

[MACC.K12.MP.3 Construct viable arguments and critique the reasoning of others.](#)

MACC.K12.MP.3.1 :

Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Construct viable arguments and critique the reasoning of others.](#)

[MACC.K12.MP.6 Attend to precision.](#)

MACC.K12.MP.6.1 :

Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Attend to precision.](#)

SC.912.N.1 The Practice of Science

SC.912.N.1.1 :

Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts).
2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines).
3. **Examine books and other sources of information to see what is already known,**
4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models).
5. **Plan investigations,** (Design and evaluate a scientific investigation).
6. **Use tools to gather, analyze, and interpret data (this**

includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).

7. **Pose answers, explanations, or descriptions of events,**
8. **Generate explanations that explicate or describe natural phenomena (inferences),**
9. **Use appropriate evidence and reasoning to justify these explanations to others,**
10. **Communicate results of scientific investigations, and**
11. **Evaluate the merits of the explanations produced by others.**

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 02/08

Belongs to: [The Practice of Science](#)

Remarks/Examples

Common Core State Standards (CCSS) Connections for 6-12 Literacy in Science

For Students in Grades 9-10

LACC.910.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LACC.910.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

LACC.910.RST.3.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

LACC.910.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.910.WHST.3.9 Draw evidence from informational texts to support

analysis, reflection, and research.

For Students in Grades 11-12

LACC.1112.RST.1.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LACC.1112.RST.1.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

LACC.1112.RST.3.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

LACC.1112.WHST.1.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

LACC.1112.WHST.3.9 Draw evidence from informational texts to support analysis, reflection, and research.

Common Core State Standards (CCSS) Connections for Mathematical Practices

- MACC.K12.MP.1: Make sense of problems and persevere in solving them.
- MACC.K12.MP.2: Reason abstractly and quantitatively.
- MACC.K12.MP.3: Construct viable arguments and critique the reasoning of others. [Viable arguments include evidence.]
- MACC.K12.MP.4: Model with mathematics.
- MACC.K12.MP.5: Use appropriate tools strategically.
- MACC.K12.MP.6: Attend to precision.
- MACC.K12.MP.7: Look for and make use of structure.
- MACC.K12.MP.8: Look for and express regularity in repeated reasoning.

SC.912.N.1.4 :

Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning I
Date Adopted or Revised: 02/08

Belongs to: [The Practice of Science](#)

Remarks/Examples

Read, interpret, and examine the credibility and validity of scientific claims in different sources of information, such as

	<p>scientific articles, advertisements, or media stories. Strict standards of science include controlled variables, sufficient sample size, replication of results, empirical and measurable evidence, and the concept of falsification.</p> <p>CCSS Connections: LACC.910.RST.1.1 / LACC.1112.RST.1.1.</p>
<p><u>SS.912.P.12 Cognition Domain/Thinking</u></p>	
<p><u>SS.912.P.12.1 :</u></p>	<p>Define cognitive processes involved in understanding information. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Cognition Domain/Thinking Remarks/Examples</p> <p>Examples may include, but are not limited to, encoding, storage, and retrieval.</p>

RELATED GLOSSARY TERM DEFINITIONS (10)

Conduction:	To transmit heat, sound, or electricity through a medium.
Experiment:	A procedure that is carried out and repeated under controlled conditions in order to discover, demonstrate, or test a hypothesis.
Inference :	The act of reasoning from factual knowledge or evidence.
Investigation :	A systematic process that uses various types of data and logic and reasoning to better understand something or answer a question.
Light:	Electromagnetic radiation that lies within the visible range.
Microscope:	An instrument with lenses and light that is used to observe objects too small to be visible with only the eyes.
Model :	A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be material, visual, mathematical, or computational and

	are often used in the construction of scientific theories.
Observation :	What one has observed using senses or instruments.
Space:	The limitless expanse where all objects and events occur. Outer space is the region of the universe beyond Earth's atmosphere.
Variable:	An event, condition, or factor that can be changed or controlled in order to study or test a hypothesis in a scientific experiment.



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Course: Advancement Via Individual Determination 4- 1700420

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BASIC INFORMATION

Course Title:	Advancement Via Individual Determination 4
Course Number:	1700420
Course Abbreviated Title:	AVID 4
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Status:	Draft - Board Approval Pending
Version Description:	<p>AVID (Advancement Via Individual Determination) elective courses at all grade levels are designed to prepare students for success in four-year colleges and universities. The courses emphasize rhetorical reading, analytical writing, collaborative discussion strategies, tutorial inquiry study groups, preparation for college entrance and placement exams, college study skills and test taking strategies, note taking and research. All AVID seniors are required to develop and present a portfolio representing their years of work in the AVID program as well as complete the requirements for the Seminar course.</p> <p>The AVID Elective twelfth grade course is the second part in a junior/senior seminar course that focuses on writing and critical thinking expected of first- and second-year college students. This course continues around the theme of "Leadership as a Catalyst for Change in Society." Students will complete a final research essay project from research conducted in their junior year in AVID. In addition to the academic focus of the AVID senior seminar, there are</p>

college-bound activities, methodologies and tasks that should be achieved during the senior year that support students as they apply to four- year universities and confirm their postsecondary plans. All AVID seniors are required to develop and present a portfolio representing their years of work in the AVID program, as well as complete the requirements for the seminar course.

This course shall integrate the Goal 3 Student Performance Standards of the Florida System of School Improvement and Accountability as appropriate to the content and processes of the subject matter. Course student performance standards must be adopted by the district, and they must reflect appropriate Common Core State Standards.

Related AVID Standards

Domain CD: Character Development

Cluster 1 Self-Awareness

The student will:

AV.12.CD.1.1 - understand the role of AVID students and display characteristics on a regular basis, especially to younger AVID students

AV.12.CD.1.2 - serve a mentor and role model to younger AVID students

AV.12.CD.1.3 - prepare to successfully resolve conflicts and disputes that may arise in college (e.g., roommates, professors)

AV.12.CD.1.4 - apply for scholarships that align with abilities, talents and interests

Cluster 2 Goals

The student will:

AV.12.CD.2.1 - monitor progress toward goals regarding the college application process

AV.12.CD.2.2 - continue developing academic strengths with the incorporation of college level courses with a focus on academic stretch

AV.12.CD.2.3 - break goals into achievable action steps and monitor progress regularly

AV.12.CD.2.4 - assess areas of potential weakness and plan appropriately to break poor habits of mind

AV.12.CD.2.5 - reflect upon previous three year's goals and determine successes and challenges of reaching those goals

AV.12.CD.2.6 - design appropriate short- and mid-tem goals, which

take into account many of the critical aspects of senior year, including college acceptance, GPA, college entrance testing, community service and college level coursework
AV.12.CD.2.7 - determine a new/revised long-term goal (which will take three to five years to accomplish)

Cluster 3 Community and School Involvement

The student will:

AV.12.CD.3.1 - continue with select school activities/clubs, seeking out positions of leadership

AV.12.CD.3.2 - consider putting on community service/service learning activity within collaborative groups

AV.12.CD.3.3 - track community service hours and extracurricular activity participation in a multi-year student portfolio

AV.12.CD.3.4 - research and apply for potential scholarships associated with clubs, sports, and/or community involvement

AV.12.CD.3.5 - plan an end of year celebration, focusing on college acceptance and scholarships

Cluster 4 Ownership of Learning

The student will:

AV.12.CD.4.1 - access grades online or from teachers on a regular basis

AV.12.CD.4.2 - analyze grade reports to create a study/action plan for continued academic improvement

AV.12.CD.4.3 - communicate effectively with teachers, counselors and administrators to discuss areas of concern or a need for clarity

AV.12.CD.4.4 - develop a sense of building community within the school, advocating for positive school change

AV.12.CD.4.5 - integrate academic questions before, during and after class with teachers and peers

Domain COMM: Communication

Cluster 1 Speaking

The student will:

AV.12.COMM.1.1 - refine articulation, inflection and vocabulary within speeches and presentations

AV.12.COMM.1.2 - prepare for, conduct and utilize interviews within research writing

AV.12.COMM.1.3 - present research findings on "A Leader as a Catalyst for Change" assignment, which is judged by a panel of teachers, administrators and parent volunteers

AV.12.COMM.1.4 - improve oral communication and leadership skills

through a variety of means, including presentations, Socratic Seminars and Philosophical Chairs discussions

AV.12.COMM.1.5 - utilize opportunities to act as a cross-age tutor to lower grades, middle schools or after-school programs

AV.12.COMM.1.6 - speak in a variety of public venues, such as middle school recruitment and middle school shadowing days at school

Cluster 2 Listening

The student will:

AV.12.COMM.2.1 - critically listen and respond to others' ideas in formal and informal settings

AV.12.COMM.2.2 - evaluate own and others' speaking, using rubrics and scoring guides

AV.12.COMM.2.3 - clarify understanding of content through questioning

Domain WRI: Writing

Cluster 1 The Writing Process

The student will:

AV.12.WRI.1.1 - understand and identify the audience, purpose and form for writing assignments

AV.12.WRI.1.2 - analyze complex college level prompts and design arguments with fully developed claims and cited evidence

AV.12.WRI.1.3 - edit students' essays, checking for professionalism in all aspects of writing

AV.12.WRI.1.4 - use a variety of rubrics to grade essays, especially those used to grade essays for the SAT and other college admissions tests

Cluster 2 Writing Skills

The student will:

AV.12.WRI.2.1 - create academic introductions through the incorporation of valuable background information, a "hook", and well constructed thesis

AV.12.WRI.2.2 - refine skills in research techniques and proper source integration into essays

AV.12.WRI.2.3 - utilize multiple structures commonly used at collegiate levels, such as MLA/APA citations, source integration and abstract writing

AV.12.WRI.2.4 - focus on improving sentences through word choice and varying sentence structure

AV.12.WRI.2.5 - create precision and interest by elaborating on ideas through supporting details

Cluster 3 Writing Applications

The student will:

AV.12.WRI.3.1 - develop and strengthen writing through the creation of a biography on a leader as a catalyst for change

AV.12.WRI.3.2 - write timed in-class essays modeled after those required for college-entrance courses

AV.12.WRI.3.3 - develop and strengthen writing through the creation of a personal statement essay

AV.12.WRI.3.4 - write letters of advice to younger AVID students offering tips and advice

Cluster 4 Writing to Learn

The student will:

AV.12.WRI.4.1 - reflect upon research skills gained during the research project (Leaders as a Catalyst for Change) and how those skills will relate to postsecondary education

Domain INQ: Inquiry**Cluster 1 - Costa's Levels of Thinking**

The student will:

AV.12.INQ.1.1 - refine collaborative group study skills in academic tutorials to form groups independently for each core class, especially around college level courses

Cluster 2 Tutorials

The student will:

AV.12.INQ.2.1 - create a study group with a discussion of rules and expectations

AV.12.INQ.2.2 - reflect upon the relationship between high school tutorials and their connection at the collegiate level

AV.12.INQ.2.2 - reflect upon participation and knowledge gained from tutorials and other collaborative activities

Cluster 3 Socratic Seminar and Philosophical Chairs

The student will:

AV.12.INQ.3.1 - select their own topics for Socratic Seminar/Philosophical Chairs discussions

AV.12.INQ.3.2 - integrate a variety of source evidence to support position statements

AV.12.INQ.3.3 - articulate a more thorough understanding of the topic, based on the discussion

AV.12.INQ.3.4 - take an active leadership role that results in higher

levels of thinking and comprehension

AV.12.INQ.3.5 - analyze a 17th, 18th, or 19th century foundational U.S. document of historical and literary significance (e.g., The Bill of Rights or Lincoln's Second Inaugural Address) for themes, purposes and rhetorical features in a Socratic Seminar or Philosophical Chairs discussion

AV.12.INQ.3.6 - integrate and evaluate multiple courses of information presented in different media or formats (e.g., visually, quantitatively), as well as in words, in order to address a question or solve a problem in a Socratic Seminar or Philosophical Chairs discussion

Domain COLL: Collaboration

Cluster 1 Collaborative Skills

The student will:

AV.12.COLL.1.1 - independently create study groups for academically rigorous coursework

AV.12.COLL.1.2 - develop positive peer relationships, especially with those taking advanced coursework

AV.12.COLL.1.3 - discuss informal study group norms and how to become a member of a study team in college

Domain ORG: Organization

Cluster 1 Organization and Time Management

The student will:

AV.12.ORG.1.1 - begin developing a personal organizational system to prepare for success in college

AV.12.ORG.1.2 - use the planner/agenda to track senior year tasks and responsibilities, including exams, college applications deadlines, letters of recommendation, FAFSA, scholarships, and final transcripts

AV.12.ORG.1.3 - develop and discuss plans when the academic work load is especially difficult

AV.12.ORG.1.4 - plan for future commitments in college and discuss with both the teacher and college tutor

AV.12.ORG.1.5 - reflect on academic performance and independently adjust study habits and time management skills as needed

AV.12.ORG.1.6 - continue to add to academic portfolio to demonstrate student growth

AV.12.ORG.1.7 - present portfolio of personal academic work at the end of the year emphasizing personal growth and successes

AV.12.ORG.1.8 - publish final versions of writing for the academic portfolio

Cluster 2 Note-Taking

The student will:

AV.12.ORG.2.1 - take 15 to 25 pages of quality Cornell notes per week

AV.12.ORG.2.2 - utilize Cornell notes as an advanced study tool, which will be continually refined and studied independently

AV.12.ORG.2.3 - adapt organization strategy of note-taking to meet required academic tasks, such as lectures, lab work, reading or collaborative work

AV.12.ORG.2.4 - create notes which track reading and research effectively

AV.12.ORG.2.5 - personalize notations to call out key information while taking notes

AV.12.ORG.2.6 - utilize notes during in-class and independently formed study groups

AV.12.ORG.2.7 - refine the skill of editing and revise notes outside of class to improve their usability

AV.12.ORG.2.8 - refine the skill of writing higher-level summaries for Cornell notes that link all of the learning together

Cluster 3 Research and Technology

The student will:

AV.12.ORG.3.1 - integrate research and interviews into writing, using citation circles

AV.12.ORG.3.2 - research a leader as a catalyst for change as a culminating research project, using books, Internet and other primary sources

AV.12.ORG.3.3 - utilize peer support and resources to complete and individual research project

AV.12.ORG.3.4 - create research logs, tracking information for culminating research project

AV.12.ORG.3.5 - create a methodology section, which helps track and organize thoughts and processes for writings

AV.12.ORG.3.6 - research colleges/universities of interest with a focus on finalizing a decision about which colleges to apply to during fall and become aware of admissions deadlines

Cluster 4 Test Preparation and Test-Taking

The student will:

AV.12.ORG.4.1 - work in peer groups to prepare for mid-terms, finals, AP and end of course exams

AV.12.ORG.4.2 - seek clarification from instructors on exam format, timing and content, in order to fully prepare for successful

completion of assessments

AV.12.ORG.4.3 - analyze test results to determine errors and points of confusion and utilize weekly tutorials for revisiting those materials to ensure a clear understanding

Domain REA: Reading

Cluster 1 Vocabulary

The student will:

AV.12.REA.1.1 - chart new vocabulary and meaning gathered from texts

AV.12.REA.1.2 - infer word meaning using knowledge of advanced prefixes, suffixes and root words, including words of Anglo-Saxon, Greek, and Latin origin

Cluster 2 Textual Analysis

The student will:

AV.12.REA.2.1 - analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is actually meant (e.g., satire, sarcasm, irony or understatement)

AV.12.REA.2.2 - analyze authentic writing prompts and formulate the organization of a response

AV.12.REA.2.3 - pause to connect related parts of a text, drawing together various aspects of an argument

AV.12.REA.2.4 - utilize three-part source integration, including source, paraphrase/direct quote, and comment about its relevance to the argument

AV.12.REA.2.5 - chart text, tracking key information and author's claims

AV.12.REA.2.6 - choose one or more writing in the margin strategies while reading text

AV.12.REA.2.7 - determine how best to take notes or record information garnered from readings or films, especially those dealing with advanced content

AV.12.REA.2.8 - identify the persona of the authors, finding elements of argument and compare/contrast views of various authors

Domain CR: College Readiness

Cluster 1 Guest Speakers

The student will:

AV.12.CR.1.1 - attend college awareness nights, where multiple postsecondary institutions are present, gaining information about institutions of interest, and integrate information into student projects and presentations

AV.12.CR.1.2 - utilize Cornell notes as a means to track main points from guest speakers, keeping them as an ongoing reflective tool as part of a multi-year portfolio

AV.11.CR.1.3 - have at least one current college student as a guest speaker, with students pre-generating questions about campus life

AV.12.CR.1.4 - seek information from an array of guest speakers who provide expertise in college admissions, financial aid and the FAFSA, college selection and scholarships

Cluster 2 Field Trips

The student will:

AV.12.CR.2.1 - attend as many college/university visits early in the year, including listening to speakers from admissions who focus on tips for college applications

AV.12.CR.2.2 - determine and plan college/university field trips, including contacting admissions counselors and student guides

AV.12.CR.2.3 - attend a cultural event trip for the second half of the year (the theater, a play or a museum visit) and complete a written assignment

AV.12.CR.2.4 - visit schools of interest independently during weekends or summer, to gain further exposure to postsecondary opportunities

Cluster 3 College and Career Knowledge

The student will:

AV.12.CR.3.1 - apply for scholarships as a class and individually

AV.12.CR.3.2 - check any specific college requirements or local graduation requirements for community service and log those in the student portfolio

AV.12.CR.3.3 - examine cost of colleges to which they have been accepted and determine how financial aid, grants, scholarship, work study programs and other funding sources can help meet those cost needs

AV.12.CR.3.4 - develop an understanding of selecting and scheduling courses in college, including fulfilling the requirements of a degree plan

AV.12.CR.3.5 - ask for letters of recommendation from teachers and club advisors with whom a strong relationship has been established

AV.12.CR.3.6 - select a college major based on a career choice of interest

Cluster 4 College Entrance Testing

The student will:

	<p>AV.12.CR.4.1 - prepare for and take the SAT and/or ACT at least once during the fall semester</p> <p>AV.12.CR.4.2 - solve college entrance sample questions both independently and in groups and discuss how best to approach solutions</p> <p>AV.12.CR.4.3 - execute the study pal during the fall, in order to prepare for college entrance testing</p> <p>AV.12.CR.4.4 - independently utilize online college testing study websites to practice for exams</p> <p>AV.12.CR.4.5 - become familiar with the formatting of college entrance exams, such as the SAT and ACT, and college level credit exams, such as Advanced Placement tests</p> <p>AV.12.CR.4.6 - use SAT and ACT results from junior year to determine areas of weakness and independently address them with online resources</p> <p>AV.12.CR.4.7 - track all testing results for input into college admission applications</p> <p>Cluster 5 College Admissions and Financial Aid</p> <p>The student will:</p> <p>AV.12.CR.5.1 - select appropriate teachers/counselors for letters of recommendation</p> <p>AV.12.CR.5.2 - distinguish between universities based on personal and academic need</p> <p>AV.12.CR.5.3 - complete and submit college/university applications for schools of interest, including admission essays, letters of recommendation, SAT/ACT scores and official transcripts within the appropriate timeframe</p> <p>AV.12.CR.5.4 - research and prepare financial aid application, including the FAFSA</p> <p>AV.12.CR.5.5 - create a financial plan for the cost of applications and university expenses</p> <p>AV.12.CR.5.6 - create and design a resume that reflects personal and academic strengths</p> <p>AV.12.CR.5.7 - write an effective personal statement that illustrates academic and/or personal accomplishments where applicable</p> <p>AV.12.CR.5.8 - fulfill all course and grade requirements during senior year to remain eligible for college acceptance</p>
<p>General Notes:</p>	<p>Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination IV (AVID IV) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center.</p>

	Teachers must receive training from AVID Center to teach this course.
Verion Requirements:	These requirements include, but are not limited to, the Common Core State Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Common Core State Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.



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Course: Advancement Via Individual Determination 3- 1700410

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page:<http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4931.aspx>

BASIC INFORMATION

Course Title:	Advancement Via Individual Determination 3
Course Number:	1700410
Course Abbreviated Title:	AVID 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Status:	Draft - Board Approval Pending
Version Description:	<p>AVID (Advancement Via Individual Determination) elective courses at all grade levels are designed to prepare students for success in four-year colleges and universities. The courses emphasize rhetorical reading, analytical writing, collaborative discussion strategies, tutorial inquiry study groups, preparation for college entrance and placement exams, college study skills and test taking strategies, note taking and research.</p> <p>The eleventh grade AVID Elective course is the first part in a junior/senior seminar course that focuses on writing and critical thinking expected of first- and second-year college students. This course is organized around the theme of "Leadership as a Catalyst for Change in Society." Students study, in depth, exceptional leaders in contemporary society and examine the effect these individuals have had on culture, politics, education, history, science and the arts. The course requires that students read essays, speeches, articles and letters by these leaders, as well as at least one full-length work by the leader or about the leader. Also, each student is required to conduct</p>

a research project that is presented in the senior year. In addition to the academic focus of the AVID seminar, there are college-bound activities, methodologies and tasks that should be undertaken during the junior year to support students as they apply to four-year universities and confirm their postsecondary plans.

This course shall integrate the Goal 3 Student Performance Standards of the Florida System of School Improvement and Accountability as appropriate to the content and processes of the subject matter.

Course student performance standards must be adopted by the district, and they must reflect appropriate Common Core State Standards.

Related AVID Standards

Domain CD: Character Development

Cluster 1 Self-Awareness

The student will:

AV.11.CD.1.1 - understand the role of AVID students and display characteristics on a regular basis, especially to younger AVID students

AV.11.CD.1.2 - serve a mentor and role model to younger AVID students

AV.11.CD.1.3 - develop skills in offering and receiving criticism

AV.11.CD.1.4 - identify potential academic challenges that may occur and seek proactive solutions with teachers

AV.11.CD.1.5 - examine potential career paths and college degrees that align with abilities, talents and interests

AV.11.CD.1.6 - align senior year course selection with identified interests and ability to aid in a smooth collegiate transition

Cluster 2 Goals

The student will:

AV.11.CD.2.1 - check progress toward short- and mid-term goals, including grade point average

AV.11.CD.2.2 - review academic six-year plan, checking to assure rigorous course load through graduation

AV.11.CD.2.3 - develop action steps to achieve desired scores on the SAT and ACT

AV.11.CD.2.4 - refine goals based on interests, talents and abilities

AV.11.CD.2.5 - refine plans for ongoing personal and academic development

AV.11.CD.2.6 - create living document with written goals, broken down into steps to use throughout the year
AV.11.CD.2.7 - reflect upon previous year's goals and discuss successes and challenges of reaching those goals
AV.11.CD.2.8 - reflect upon previous year's long term goal and revise as necessary, focusing on specific goals dedicated to planning for college and career

Cluster 3 Community and School Involvement

The student will:

AV.11.CD.3.1 - continue with select school activities/clubs and community service opportunities throughout the year, especially clubs for upper-classmen (e.g., National Honor Society)
AV.11.CD.3.2 - focus on leadership positions within school clubs
AV.11.CD.3.3 - track community service hours and extracurricular activity participation in a multi-year student portfolio
AV.11.CD.3.4 - consider putting on a class community service activity within collaborative groups
AV.11.CD.3.5 - ask for letters of recommendation from club advisors with whom a strong relationship has been established
AV.11.CD.3.6 - consider peer tutoring in after-school programs or at surrounding middle schools

Cluster 4 Ownership of Learning

The student will:

AV.11.CD.4.1 - access grades online or from teachers on a regular basis
AV.11.CD.4.2 - analyze grade reports to create a study/action plan for continued academic improvement
AV.11.CD.4.3 - communicate effectively with teachers, counselors and administrators to discuss areas of concern or a need for clarity
AV.11.CD.4.4 - increase awareness of how various content areas are connected
AV.11.CD.4.5 - integrate academic questions before, during and after class with teachers and peers

Domain COMM: Communication

Cluster 1 Speaking

The student will:

AV.11.COMM.1.1 - refine all aspects of public speaking and presenting
AV.11.COMM.1.2 - seamlessly incorporate visual aids of varying types into speeches and presentations

AV.11.COMM.1.3 -present research findings as a group on “A Leader as a Catalyst for Change” assignment

AV.11.COMM.1.4 - refine speaking skills through working with peers to promote civil, democratic discussions and decision-making

AV.11.COMM.1.5 - speak in a variety of public venues as an AVID representative or ambassador

Cluster 2 Listening

The student will:

AV.11.COMM.2.1 - listen and respond to others in formal and informal settings

AV.11.COMM.2.2 - effectively summarize ideas from a discussion, noting how their personal views on the topic have changed or been influenced

AV.11.COMM.2.3 - critically evaluate and analyze oral presentations

Domain WRI: Writing

Cluster 1 The Writing Process

The student will:

AV.11.WRI.1.1 - organize, monitor progress, and effectively manage time requirements surrounding complex writing assignments

AV.11.WRI.1.2 - analyze a prompt, distinguishing between writing under testing conditions and untimed situations

AV.11.WRI.1.3 - revise drafts as necessary until all ideas are expressed in the best possible manner

AV.11.WRI.1.4 - edit students’ essays, especially checking for integration of quotes and citations

AV.11.WRI.1.5 - utilize rubrics to self-evaluate and peer evaluate work, especially those similar to AP exam rubrics

AV.11.WRI.1.6 - reflect on one’s own writing to set future goals and/or determine next steps or needs as a writer

Cluster 2 Writing Skills

The student will:

AV.11.WRI.2.1 - develop well-constructed thesis statements, which properly capture the paper’s topic

AV.11.WRI.2.2 - effectively integrate quotes into writing

AV.11.WRI.2.3 - utilize multiple structures commonly used at collegiate levels, such as MLA/APA citations, source integration and abstract writing

AV.11.WRI.2.4 - focus on improving sentences through word choice and varying sentence structure

Cluster 3 Writing Applications

The student will:

AV.11.WRI.3.1 - develop and strengthen writing through the creation of a biography on a historical leader

AV.11.WRI.3.2 - develop and strengthen writing through the creation of a college admissions essay

AV.11.WRI.3.3 - develop and strengthen writing through the creation of a "life goals" essay focused on college

AV.11.WRI.3.4 - produce a friendly letter focusing on professional response, reflecting needs in college and professional careers

AV.11.WRI.3.5 - draft and respond to Summer Institute Speaker contests

Cluster 4 Writing to Learn

The student will:

AV.11.WRI.4.1 - refine skills of summarizing information in various contexts

AV.11.WRI.4.2 - reflect upon research skills gained during the research project (Leaders as a Catalyst for Change) and how those skills will relate to postsecondary education

Domain INQ: Inquiry

Cluster 1 Costa's Levels of Thinking

The student will:

AV.11.INQ.1.1 - refine collaborative group study skills during academic tutorials so that students are able to form groups independently for each core class, especially around college level courses

Cluster 2 Tutorials

The student will:

AV.11.INQ.2.1 - with other group members and presenter lead the discussion with minimal tutor input

AV.11.INQ.2.2 - complete a higher-level reflection about the learning process during tutorials

Cluster 3 Socratic Seminar and Philosophical Chairs

The student will:

AV.11.INQ.3.1 - provide the central statement for Philosophical Chairs

AV.11.INQ.3.2 - formulate questions to make a personal connection with text(s) and/or other content/concepts

AV.11.INQ.3.3 - evaluate ideas/points of view within the discussion

and generate/construct appropriate responses

AV.11.INQ.3.4 - appreciate multiple perspectives, in order to negotiate multiple meanings or ideas during the discussion

AV.11.INQ.3.5 - prepare an academic argument on a controversial topic, integrating fully developed claims

AV.11.INQ.3.6 - analyze a 17th, 18th, or 19th century foundational U.S. document of historical and literary significance (e.g., The Declaration of Independence or the Preamble to the Constitution) for their themes, purposes and rhetorical features in a Socratic Seminar or Philosophical Chairs discussion

Domain COLL: Collaboration

Cluster 1 Collaborative Skills

The student will:

AV.11.COLL.1.1 - independently create study groups for academically rigorous coursework, with discussion on creating group norms and expectations

AV.11.COLL.1.2 - develop positive peer relationships, especially with those taking advanced coursework

AV.11.COLL.1.3 - provide opportunity for peer tutoring in after-school programs or at surrounding middle schools

Domain ORG: Organization

Cluster 1 Organization and Time Management

The student will:

AV.11.ORG.1.1 - refine the use of organizational tools, such as assignment logs, calendars, agendas, and planners, consider color coding to distinguish types of tasks and develop an individualized style

AV.11.ORG.1.2 - adjust commitments to ensure that sufficient time is available to meet academic goals, as well as extracurricular activities and a job, as necessary

AV.11.ORG.1.3 - reflect at the end of eleventh grade about summer priorities, next year's time commitment, and potential to successfully navigate all courses, especially college level coursework, successfully

AV.11.ORG.1.4 - reflect on academic performance and independently adjust study habits and time management skills as needed

AV.11.ORG.1.5 - continuously add to and reflect on multi-grade portfolio throughout the school year

AV.11.ORG.1.6 - publish final versions of writing for the academic portfolio

Cluster 2 Note-Taking

The student will:

AV.11.ORG.2.1 - take 15 to 25 pages of quality Cornell notes per week

AV.11.ORG.2.2 - utilize Cornell notes as an advanced study tool, which will be continually refined and studied independently

AV.11.ORG.2.3 - adapt organization strategy of note-taking to meet required academic tasks, such as lectures, lab work, reading or collaborative work

AV.11.ORG.2.4 - use the skills of underlining key terms, highlighting and going back to fill in gaps to sufficiently process notes that have been taken

AV.11.ORG.2.5 - review, refine and use color-coding on notes focusing on unimportant information, key information and potential test questions

AV.11.ORG.2.6 - refine content on notes as new understanding is gained through reading textbook(s), tutorial sessions, study groups and discussions with the teacher/peers

AV.11.ORG.2.7 - refine writing of higher-level questions in the left column that corresponds to chunks of information in the notes section to ensure that they will generate higher-level thinking

AV.11.ORG.2.8 - reflect on all notes taken during a unit of study after the test is returned and consider gaps of study that led to missed questions

Cluster 3 Research and Technology

The student will:

AV.11.ORG.3.1 - expand proficiency with technological learning tools, especially advanced features of MS Word, PowerPoint, and video editing software

AV.11.ORG.3.2 - complete an in-depth research project focused on a leader, where the student utilizes books, Internet, and primary source documents

AV.11.ORG.3.3 - work with the class to complete a research project

AV.11.ORG.3.4 - work with a small group to complete a research project

AV.11.ORG.3.5 - research and apply for college scholarships

Cluster 4 Test Preparation and Test-Taking

The student will:

AV.11.ORG.4.1 - discuss test-taking strategies with core content teachers, in order to support efforts in preparing for exams

AV.11.ORG.4.2 - analyze test results and bring missed questions to tutorials to discuss and solve with peer groups

Domain REA: Reading

Cluster 1 Vocabulary

The student will:

AV.11.REA.1.1 - relate new vocabulary to familiar words

AV.11.REA.1.2 - infer word meaning using knowledge of advanced prefixes, suffixes and root words

AV.11.REA.1.3 - chart new words during reading of increasingly complex texts

AV.11.REA.1.4 - utilize concept mapping to determine word usage and various meanings

Cluster 2 Textual Analysis

The student will:

AV.11.REA.2.1 - analyze multiple interpretations of a story, drama or poem, evaluating how each version interprets the source text

AV.11.REA.2.2 - analyze collegiate level writing prompts to determine purpose

AV.11.REA.2.3 - analyze the features and rhetorical devices used in different types of non-fiction: essays, speeches, editorials, scientific reports and historical documentaries

AV.11.REA.2.4 - effectively summarize sections of an argument, text or film

AV.11.REA.2.5 - focus on a three-part source integration, including source, paraphrase/direct quote, and comment about its relevance to the argument

AV.11.REA.2.6 - deliberately select rereading strategies that will assist in understanding of the text

AV.11.REA.2.7 - determine how best to take notes or record information garnered from readings or films, especially those dealing with advanced content

AV.11.REA.2.8 - analyze philosophical and political arguments

AV.11.REA.2.9 - analyze an author's proof in order to isolate key evidence, identify types of evidence being presented, and analyze its value and impact on the argument

Domain CR: College Readiness

Cluster 1 Guest Speakers

The student will:

AV.11.CR.1.1 - investigate possible guest speakers to support research and career projects

AV.11.CR.1.2 - formulate and ask questions during guest speaker

presentations, such as college admissions officers, financial aid advisors, current college students and/or AVID graduates, or professionals from various careers

AV.11.CR.1.3 - utilize Cornell notes as a means to track main points from guest speakers, keeping them as an ongoing reflective tool as part of a multi-year portfolio

AV.11.CR.1.4 - reflect upon guest speakers of the previous two years

AV.11.CR.1.5 - reflect upon guest speakers and areas of interest, possibly seeking opportunities to job shadow or potential internships in areas of interest

Cluster 2 Field Trips

The student will:

AV.11.CR.2.1 - attend as many college/university visits as possible, with opportunities to sit in on college classes or attend a cultural event on campus

AV.11.CR.2.2 - determine and plan the spring college/university field trip, including contacting of the admissions counselors and student guides

AV.11.CR.2.3 - visit schools of interest independently during weekends or summer to gain further exposure to postsecondary opportunities

AV.11.CR.2.4 - reflect on course performance/GPA to determine which schools might best fit with areas of career interest

Cluster 3 College and Career Knowledge

The student will:

AV.11.CR.3.1 - develop an understanding of the scholarship application process and required information

AV.11.CR.3.2 - determine which colleges/universities will best meet academic pursuits

AV.11.CR.3.3 - examine cost of colleges and determine how financial aid, grants, scholarship, work study programs and other funding sources can help meet those cost needs

AV.11.CR.3.4 - examine FAFSA requirements and determine appropriate action steps to meet deadlines

AV.11.CR.3.5 - begin a basic understanding of selecting and scheduling courses in college

Cluster 4 College Entrance Testing

The student will:

AV.11.CR.4.1 - prepare for and take the PSAT in the fall of eleventh grade year

	<p>AV.11.CR.4.2 - chart scores from PSAT/PLAN, monitoring areas of weakness and creating a study plan to meet testing needs</p> <p>AV.11.CR.4.3 - prepare for and take the SAT and/or ACT at least once during the spring semester</p> <p>AV.11.CR.4.4 - analyze test results and develop a study plan for the spring and summer to prepare for testing during the twelfth grade year</p> <p>AV.11.CR.4.5 - analyze the structure and formatting of college entrance exams and develop a test-taking plan that will lead to higher scores</p> <p>AV.11.CR.4.6 - practice college entrance sample questions and discuss how best to approach solutions</p> <p>AV.11.CR.4.7 - examine other college entrance exams, such as those that would exempt students from college remediation coursework</p> <p>AV.11.CR.4.8 - track all personal test results in a student portfolio and monitor scores in comparison to the requirements of colleges and universities of choice</p> <p>Cluster 5 College Admissions and Financial Aid</p> <p>The student will:</p> <p>AV.11.CR.5.1 - track requirements for various postsecondary opportunities including average GPAs, SAT/ACT scores and extracurricular activities</p> <p>AV.11.CR.5.2 - regularly update activity information and admissions materials in the student portfolio</p> <p>AV.11.CR.5.3 - begin writing personal statement essays and a personal resume for college applications</p>
<p>General Notes:</p>	<p>Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination III (AVID III) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID IV. Teachers must receive training from AVID Center to teach this course.</p>
<p>Version Requirements:</p>	<p>These requirements include, but are not limited to, the Common Core State Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Common Core State Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.</p>



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Course: Advancement Via Individual Determination 2- 1700400

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BASIC INFORMATION

Course Title:	Advancement Via Individual Determination 2
Course Number:	1700400
Course Abbreviated Title:	AVID 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Status:	Draft - Board Approval Pending
Version Description:	<p>AVID (Advancement Via Individual Determination) is offered as a rigorous academic elective course that prepares students for success in four-year colleges. The AVID course is scheduled during the regular school day as a year-long course. Each week students receive instruction utilizing a rigorous college preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities and academic survival skills. There is an emphasis on analytical writing, preparation for college entrance and placement exams, study skills and test taking, note-taking, and research. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, and reading to support their academic growth.</p> <p>Students in the tenth grade AVID Elective course will refine the AVID strategies to meet their independent needs and learning styles. Students will continue to refine and adjust their academic learning plans and goals, increasing awareness of their actions and behaviors. As students increase the rigorous course load and school/community</p>

involvement, they will refine their time management and study skills accordingly. Students will expand their writing portfolio to include: analyzing prompts, supporting arguments and claims, character analysis and detailed reflections. Students will also analyze various documents, in order to participate in collaborative discussions and develop leadership skills in those settings. Students will expand their vocabulary use, continuing to prepare for college entrance exams and preparation. Text analysis will focus on specific strategies to understand complex texts. Lastly, students will narrow down their college and careers of interest, based on personal interests and goals.

This course shall integrate the Goal 3 Student Performance Standards of the Florida System of School Improvement and Accountability as appropriate to the content and processes of the subject matter.

Course student performance standards must be adopted by the district, and they must reflect appropriate Common Core State Standards.

Related AVID Standards

Domain CD: Character Development

Cluster 1 Self-Awareness

The student will:

AV.10.CD.1.1 - Demonstrate scholarly attributes in working with adults and peers

AV.10.CD.1.2 - understand the role of AVID students and display characteristics on a regular basis

AV.10.CD.1.3 - align learning and study strategies to personal learning style

AV.10.CD.1.4 - demonstrate the ability to successfully resolve conflicts and disputes with peers and teachers

AV.10.CD.1.5 - reassess previous year's interests and pursuits, in order to realign current activities to further develop abilities

AV.10.CD.1.6 - assess areas of weakness and develop plans to address those weaknesses

Cluster 2 Goals

The student will:

AV.10.CD.2.1 - reassess academic six-year to evaluate progress toward meeting all college entrance requirements upon high school graduation and adapt plans if any courses need to be retaken due to

low academic grades

AV.10.CD.2.2 - examine academic strengths that will aid in course selection patterns, especially around honors and AP courses

AV.10.CD.2.3 - reassess short-, mid-, and long-term goals that will continue to ensure academic and personal growth

AV.10.CD.2.4 - review and revise personal and academic goals, specifically those dealing with college and career aspirations

AV.10.CD.2.5 - set and monitor goals around community service, extracurricular activity involvement and academic testing

Cluster 3 Community and School Involvement

The student will:

AV.10.CD.3.1 - continue in extracurricular clubs, programs, community service and athletics of interest to demonstrate commitment, in addition to seeking out positions of leadership, such as club officers or captains

AV.10.CD.3.2 - determine a service learning project to participate in as a class

AV.10.CD.3.3 - track community service hours and extracurricular activity participation in a multi-year student portfolio

Cluster 4 Ownership of Learning

The student will:

AV.10.CD.4.1 - access grades online or from teachers on a regular basis

AV.10.CD.4.2 - analyze grade reports to create a study/action plan for continued academic improvement

AV.10.CD.4.3 - seek opportunities outside of the AVID classroom to ask questions, clarify thinking and identify points of confusion

AV.10.CD.4.4 - create positive peer connections through independent study groups

Domain COMM: Communication

Cluster 1 Speaking

The student will:

AV.10.COMM.1.1 - role play varying word choice, tone and voice when speaking to an assigned audience

AV.10.COMM.1.2 - practice purposeful gestures during speeches

AV.10.COMM.1.3 - refine use of vocal projection in both formal speeches and Socratic Seminar settings

AV.10.COMM.1.4 - incorporate technology and/or visual aids to increase effectiveness of the speech or presentation

AV.10.COMM.1.5 - practice speaking skills through mock job

interviews

AV.10.COMM.1.6 - present information, findings and supporting evidence concisely and logically

AV.10.COMM.1.7 - integrate multiple sources of information

AV.10.COMM.1.8 - participate in group discussion, progressing the discussion into deeper levels of thinking

Cluster 2 Listening

The student will:

AV.10.COMM.2.1 - record key learning points and provide feedback using Cornell notes

AV.10.COMM.2.2 - effectively summarize ideas from a discussion

Domain WRI: Writing

Cluster 1 The Writing Process

The student will:

AV.10.WRI.1.1 - practice strategies for pre-writing in response to various prompts for both timed writing and process writing

AV.10.WRI.1.2 - analyze a prompt for timed writing solutions

AV.10.WRI.1.3 - edit students' essays, especially checking for the usage of varied sentence types

AV.10.WRI.1.4 - utilize rubrics to self-evaluate and peer evaluate work, especially those similar to AP exam rubrics

Cluster 2 - Writing Skills

The student will:

AV.10.WRI.2.1 - refine strategies to write effective paragraphs

AV.10.WRI.2.2 - focus on expanding word choice in all aspects of writing

AV.10.WRI.2.3 - write with a focus on using varied sentence types (simple, compound, complex)

AV.10.WRI.2.4 - incorporate transitions to improve flow within a paragraph and logically tie together academic arguments

AV.10.WRI.2.5 - support arguments and claims of evidence using textual sources

Cluster 3 Writing Applications

The student will:

AV.10.WRI.3.1 - develop and strengthen writing through the creation of a career research essay

AV.10.WRI.3.2 - develop and strengthen writing through the creation of an argumentative essay

AV.10.WRI.3.3 - develop and strengthen writing through the creation

of a character analysis

AV.10.WRI.3.4 - use writing activities from content area classes to practice, develop and refine writing skills

Cluster 4 Writing to Learn

The student will:

AV.10.WRI.4.1 - evaluate summaries using rubrics and checklists

AV.10.WRI.4.2 - utilize reflective logs to evaluate note-taking habits and set subsequent goals to improve upon past learning

AV.10.WRI.4.3 - write detailed reflections on experiences, presentations and speeches, focusing on how the knowledge is applied to decisions

Domain INQ: Inquiry

Cluster 1 Costa's Levels of Thinking

The student will:

AV.10.INQ.1.1 - use skilled questioning to elicit deeper thinking from self and others

Cluster 2 Tutorials

The student will:

AV.10.INQ.2.1 - refine collaborative tutorial skills through tutor-led discussions following tutorial sessions with a focus on higher-level questioning

AV.10.INQ.2.2 - complete a higher-level reflection about the learning process during tutorials

Cluster 3 Socratic Seminar and Philosophical Chairs

The student will:

AV.10.INQ.3.1 - utilize critical reading strategies to determine main ideas/claims as a pre-activity to Socratic Seminar and Philosophical Chairs discussions

AV.10.INQ.3.2 - come to Socratic Seminar/Philosophical Chairs discussions prepared, having read and researched material under study and explicitly draw on that preparation by referring to evidence from texts

AV.10.INQ.3.3 - analyze a seminal U.S. document of historical and literary significance (e.g., Roosevelt's Four Freedoms speech, Letter from Birmingham Jail) in a Socratic Seminar or Philosophical Chairs discussion

AV.10.INQ.3.4 - analyze various accounts of a subject told through different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each

account in both a Socratic Seminar or Philosophical Chairs discussion
AV.10.INQ.3.5 - propel conversations by posing and responding to questions that relate the current discussions to broader themes or larger ideas

AV.10.INQ.3.6 - focus on the development of leadership skills and self-refinement during Socratic Seminar discussions

AV.10.INQ.3.7 - Summarize points of agreement and disagreement

Domain COLL: Collaboration

Cluster 1 Collaborative Skills

The student will:

AV.10.COLL.1.1 - develop positive peer interaction skills through creating group norms and reflective discussions following collaborative activities

AV.10.COLL.1.2 - focus on academic language skills that will develop strong peer-instructor relationships

AV.10.COLL.1.3 - practice using encouragement and positive affirmations with peers

AV.10.COLL.1.4 - evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying and fallacious reasoning or exaggerated or distorted evidence

AV.10.COLL.1.5 - utilize technology to interact and collaborate with others and foster trust building skills by working with partners to complete a specified task

AV.10.COLL.1.6 - enhance understanding of collaboration by working in groups during team building and motivational activities or problem solving

AV.10.COLL.1.7 - participate in group discussions and reflections based on collaborative work

AV.10.COLL.1.8 - acknowledge new information expressed by others, and when warranted, modify one's own views

AV.10.COLL.1.9 - refine inquiry, listening and oral communication skills through a variety of activities, including tutorials, presentations, Socratic Seminars, and Philosophical Chairs

Domain ORG: Organization

Cluster 1 Organization and Time Management

The student will:

AV.10.ORG.1.1 - refine organization and neatness of binder through ongoing course support, peer discussion, and personal reflection and goal setting

AV.10.ORG.1.2 - utilize a planner/agenda to track class assignments and grades

AV.10.ORG.1.3 - utilize a planner/agenda to balance social and academic commitments and use backwards mapping for major projects or tests

AV.10.ORG.1.4 - analyze grades to adjust study habits and time allocations

AV.10.ORG.1.5 - continuously add to and reflect on multi-grade portfolio throughout the school year

AV.10.ORG.1.6 - present portfolio of personal academic work at the end of the year using peer feedback and suggestions for improvement

AV.10.ORG.1.7 - publish final versions of writing for the academic portfolio

Cluster 2 Note-Taking

The student will:

AV.10.ORG.2.1 - take 10 to 18 pages of quality Cornell notes per week

AV.10.ORG.2.2 - utilize notes after the tests to reexamine incorrect items on the tests and where potential gaps might exist

AV.10.ORG.2.3 - create visuals or symbols in the right column to represent and help recall information

AV.10.ORG.2.4 - change pen colors to indicate change in concept

AV.10.ORG.2.5 - refine the skill of composing an essential question based on the standard or objective covered by the lesson

AV.10.ORG.2.6 - write higher-level summaries for Cornell notes that link all of the learning together

Cluster 3 Research and Technology

The student will:

AV.10.ORG.3.1 - use technology in assignments and presentations, using proper MLA style to cite sources

AV.10.ORG.3.2 - utilize technology to complete final drafts of assignments and conduct research

AV.10.ORG.3.3 - use technology to share, store and collaborate on projects

AV.10.ORG.3.4 - research careers and postsecondary institutions via the Internet, gathering information about majors and the atmosphere of the colleges/universities

Cluster 4 Test Preparation and Test-Taking

The student will:

AV.10.ORG.4.1 - use graded assessments to identify and reflect on academic weakness and determine study and test-taking strategies

that will aid in test preparation

AV.10.ORG.4.2 - utilize strategies for various types of tests, in preparation for midterm and final exams

Domain REA: Reading

Cluster 1 Vocabulary

The student will:

AV.10.REA.1.1 - expand vocabulary, especially those utilized on SAT/ACT testing and properly incorporate them into writings to vary word usage

AV.10.REA.1.2 - develop interpretation skills, using root word, prefix and suffix

AV.10.REA.1.3 - demonstrate independence in gathering vocabulary knowledge

Cluster 2 Textual Analysis

The student will:

AV.10.REA.2.1 - learn to determine purpose of reading, in order to correctly choose a proper method of reading

AV.10.REA.2.2 - read and discuss various examples of text, including articles from fiction and non-fiction

AV.10.REA.2.3 - mark texts to track understanding of the text and questions about reading

AV.10.REA.2.4 - utilize charting of the text to track various points of view and opposing claims

AV.10.REA.2.5 - determine author's tone and voice

AV.10.REA.2.6 - demonstrate a comprehensive understanding of significant ideas expressed in written works by identifying important ideas, recognizing inferences and drawing conclusions

Domain CR: College Readiness

Cluster 1 Guest Speakers

The student will:

AV.10.CR.1.1 - practice strong usage o/f academic language through thought-provoking questions that clarify or will lead to greater depth of knowledge

AV.10.CR.1.2 - practice listening and note-taking skills with guest speakers from both the school and community and integrate information into student projects and presentations

AV.10.CR.1.3 - write letters of appreciation to guest speakers, making sure to reflect on and express learning from the presentation

Cluster 2 Field Trips

The student will:

AV.10.CR.2.1 - participate in field trips to including, but not limited to, the following: one or two college/university visits that are different from previous year, including time spent with admissions counselors, and a field trip that has a career focus

AV.10.CR.2.2 - meet set minimum grade and behavior criteria (as determined by the school), in order to attend the field trips

AV.10.CR.2.3 - use skills of listening and note-taking during field trip experiences

AV.10.CR.2.4 - track thoughts and potential attendance of the college/university through Cornell notes, learning logs, and/or reflective essays

Cluster 3 College and Career Knowledge

The student will:

AV.10.CR.3.1 - narrow down potential colleges/universities of interest, choosing campuses that fit personality, academic interests and goals

AV.10.CR.3.2 - sign-up for ongoing information regarding admissions and potential scholarships from colleges/universities of interest

AV.10.CR.3.3 - develop an understanding of the college application process and required information

AV.10.CR.3.4 - begin developing an understanding of career paths and the associated college degree

Cluster 4 College Entrance Testing

The student will:

AV.10.CR.4.1 - prepare for, take and analyze the results for the PSAT and/or PLAN tests

AV.10.CR.4.2 - focus on strategies to help determine correct answers on high-stakes tests

AV.10.CR.4.3 - continue developing vocabulary skills by reviewing roots, prefixes, suffixes, and ACT and SAT word lists

AV.10.CR.4.4 - understand the differences between various college entrance tests

Cluster 5 College Admissions and Financial Aid

The student will:

AV.10.CR.5.1 - identify key differences between costs for public and private universities

AV.10.CR.5.2 - examine potential scholarships from colleges of interest and local scholarships and design plans to meet selection

	criteria
General Notes:	Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination II (AVID II) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID III and IV. Teachers must receive training from AVID Center to teach this course.
Verion Requirements:	These requirements include, but are not limited to, the Common Core State Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Common Core State Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.



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Course: Advancement Via Individual Determination 1- 1700390

Direct link to this

page:<http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse4929.aspx>

BASIC INFORMATION

Course Title:	Advancement Via Individual Determination 1
Course Number:	1700390
Course Abbreviated Title:	AVID 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	One credit (1)
Status:	Draft - Board Approval Pending
Version Description:	<p>AVID (Advancement Via Individual Determination) is offered as a rigorous academic elective course that prepares students for success in four-year colleges. The AVID course is scheduled during the regular school day as a year-long course. Each week students receive instruction utilizing a rigorous college preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities and academic survival skills. There is an emphasis on analytical writing, preparation for college entrance and placement exams, study skills and test taking, note-taking, and research. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, and reading to support their academic growth.</p> <p>For students new to AVID, or for those with previous experience from middle grades, the ninth grade AVID Elective course will serve as a review of the AVID philosophy and strategies. Students will work on academic and personal goals and communication, adjusting to the high school setting. Students will increase awareness of their</p>

personal contributions to their learning, as well as their involvement in their school and community. There is an emphasis on analytical writing, focusing on personal goals and thesis writing. Students will work in collaborative settings, learning how to participate in collegial discussions and use sources to support their ideas and opinions. Students will prepare for and participate in college entrance and placement exams, while refining study skills and test-taking, note-taking, and research techniques. They will take an active role in field trip and guest speaker preparations and presentations. Their college research will include financial topics and building their knowledge on colleges and careers of interest.

This course shall integrate the Goal 3 Student Performance Standards of the Florida System of School Improvement and Accountability as appropriate to the content and processes of the subject matter.

Course student performance standards must be adopted by the district, and they must reflect appropriate Common Core State Standards.

Related AVID Standards

Domain CD: Character Development

Cluster 1 Self-Awareness

The student will:

AV.9.CD.1.1 - be reminded about SLANT interactions and expectations in all classes

AV.9.CD.1.2 - understand the role of AVID students and display characteristics on a regular basis

AV.9.CD.1.3 - develop skills in offering appropriate criticism

AV.9.CD.1.4 - develop understanding about personal learning styles

AV.9.CD.1.5 - complete self-evaluations about conflict resolution, personal behavior and core values

AV.9.CD.1.6 - apply conflict management skills, aligning with the expectations of an AVID student

AV.9.CD.1.7 - develop awareness of personal strengths/skills and utilize them to better the school and community

Cluster 2 Goals

The student will:

AV.9.CD.2.1 - calculate grade point average and set academic and personal goals for success, being sure to monitor goals at the end of each grading period

AV.9.CD.2.2 - revisit academic six-year to understand college entrance requirements and learn about AP/IB/honors course options
AV.9.CD.2.3 - examine academic strengths and weaknesses that will aid in course selection patterns
AV.9.CD.2.4 - create focused goals around college and the steps necessary to gain entrance
AV.9.CD.2.5 - create short-, mid-, and long-term goals that support academic and personal growth
AV.9.CD.2.6 - review and revise personal and academic goals during key times throughout the year
AV.9.CD.2.7 - write an essay describing goals for success in high school, including the steps needed to achieve those goals and potential barriers to meeting those goals
AV.9.CD.2.8 - discuss goals in an oral presentation, using organized information that integrates appropriate media in the presentation

Cluster 3 Community and School Involvement

The student will:

AV.9.CD.3.1 - be exposed to a variety of school activities/clubs and community service opportunities at the beginning of each year
AV.9.CD.3.2 - become active in at least one school or community service project/activity
AV.9.CD.3.3 - track community service hours and extracurricular activity participation in a multi-year student portfolio

Cluster 4 Ownership of Learning

The student will:

AV.9.CD.4.1 - access grades online or from teachers on a regular basis
AV.9.CD.4.2 - analyze grade reports to create a study/action plan for continued academic improvement
AV.9.CD.4.3 - seek opportunities outside of the AVID classroom to ask questions, clarify thinking and identify points of confusion
AV.9.CD.4.4 - create positive peer connections through independent study groups

Domain COMM: Communication

Cluster 1 Speaking

The student will:

AV.9.COMM.1.1 - effectively integrate speaking terminology into speeches
AV.9.COMM.1.2 - role play varying word choice, tone and voice when speaking to an assigned audience
AV.9.COMM.1.3 - practice purposeful movement during speeches

AV.9.COMM.1.4 - draft, edit, revise and present an informal and a formal speech

AV.9.COMM.1.5 - work with a collaborative group to make presentations to the class following various activities

AV.9.COMM.1.6 - use factually reliable evidence to support topic

AV.9.COMM.1.7 - present information, findings and supporting evidence concisely and logically

Cluster 2 Listening

The student will:

AV.9.COMM.2.1 - give feedback on student presentations and delivery

AV.9.COMM.2.2 - pose questions that ask for clarification

AV.9.COMM.2.3 - record key information in Cornell notes

Domain WRI: Writing

Cluster 1 The Writing Process

The student will:

AV.9.WRI.1.1 - use organizational strategies and tools to aid in the development of essays

AV.9.WRI.1.2 - understand and identify the audience, purpose and form for writing assignments

AV.9.WRI.1.3 - revise drafts multiple times to improve and clarify

AV.9.WRI.1.4 - edit students' essays, especially checking for transition words and errors in grammar, punctuation and comma usage

AV.9.WRI.1.5 - use common editing marks during the editing process

AV.9.WRI.1.6 - utilize rubrics to self-evaluate and peer evaluate work, especially those similar to AP exam rubrics

AV.9.WRI.1.7 - reflect on their own writing to encourage continual growth

Cluster 2 Writing Skills

The student will:

AV.9.WRI.2.1 - understand strategies to write effective three-part essays

AV.9.WRI.2.2 - develop a clear and concise thesis for expository writing

AV.9.WRI.2.3 - write with a focus on grammar, punctuation and comma usage

AV.9.WRI.2.4 - include descriptive sentences in pieces of writing

AV.9.WRI.2.5 - use appropriate and varied transitions to link major sections of the text, in order to create cohesion and clarify the

relationships among complex ideas and concepts

Cluster 3 Writing Applications

The student will:

AV.9.WRI.3.1 - develop and strengthen writing through the creation of a college research essay

AV.9.WRI.3.2 - develop and strengthen writing through the creation of a Mandala essay

AV.9.WRI.3.3 - write informative texts to examine and explain complex ideas, such as a complex process

AV.9.WRI.3.4 - develop and strengthen writing through the creation of a "life goals" essay

Cluster 4 Writing to Learn

The student will:

AV.9.WRI.4.1 - write summaries of information in various contexts

AV.9.WRI.4.2 - differentiate between a summary and a reflection

AV.9.WRI.4.3 - use learning logs to reflect upon performance on assessments, where the learning broke down, and where confusion exists

Domain INQ: Inquiry

Cluster 1 Costa's Levels of Thinking

The student will:

AV.9.INQ.1.1 - use Costa's Levels of Thinking words in assignments, discussions and notes

AV.9.INQ.1.2 - focus on drawing connections between ideas, using compare and contrast questions

Cluster 2 Tutorials

The student will:

AV.9.INQ.2.1 - refine collaborative tutorial skills through tutor-led discussions following tutorial sessions

AV.9.INQ.2.2 - as a presenter initiate discussions by explaining the question (what strategies have been previously attempted and where they became confused in answering the question)

AV.9.INQ.2.3 - utilize resources (such as Cornell notes and textbook) to gather information

Cluster 3 Socratic Seminar and Philosophical Chairs

The student will:

AV.9.INQ.3.1 - work with peers to set rules for collegial discussions and decision-making

AV.9.INQ.3.2 - analyze a seminal U.S. document of historical and literary significance (e.g., the Gettysburg Address, Washington's Farewell Address) in a Socratic Seminar or Philosophical Chairs discussion

AV.9.INQ.3.3 - utilize critical reading strategies to identify authors' claims and formulate questions to explore meaning as preparation for a Socratic Seminar

AV.9.INQ.3.4 - during the Socratic Seminar, ask additional questions to continue to deeper exploration of the text and one another's thinking and expressions

AV.9.INQ.3.5 - reflect on the Socratic Seminar discussion and identify areas for future improvement

Domain COLL: Collaboration

Cluster 1 Collaborative Skills

The student will:

AV.9.COLL.1.1 - develop positive peer interaction skills through establishing group norms before, and reflective discussions following, collaborative activities

AV.9.COLL.1.2 - utilize technology to interact and collaborate with others

AV.9.COLL.1.3 - respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and when warranted, justify one's own views and understanding and make new connections in light of the evidence and reasoning presented

AV.9.COLL.1.4 - Participate in team building lessons to learn about valuing and effectively working with others

Domain ORG: Organization

Cluster 1 Organization and Time Management

The student will:

AV.9.ORG.1.1 - refine organization and neatness of binder through ongoing course support, peer discussion, and personal reflection and goal setting

AV.9.ORG.1.2 - utilize a planner/agenda to track class assignments and grades

AV.9.ORG.1.3 - utilize a planner/agenda to balance social and academic commitments and color code planner to identify different topics (academic, social, extracurricular, etc.)

AV.9.ORG.1.4 - assess time usage and create a time management plan, which will allow for academic, extracurricular and recreational activities

AV.9.ORG.1.5 - begin developing a high school portfolio of personal

academic work, accomplishments, awards and extracurricular involvement to show evidence of growth and use for college and scholarship applications

AV.9.ORG.1.6 - publish final versions of writing for the academic portfolio

Cluster 2 Note-Taking

The student will:

AV.9.ORG.2.1 - take 10 to 18 pages of quality Cornell notes per week

AV.9.ORG.2.2 - understand how to use notes to study, including the fold-over method

AV.9.ORG.2.3 - utilize notes during the tutorial process to support questioning and gathering of key learning

AV.9.ORG.2.4 - edit and revise notes outside of class to improve usability

AV.9.ORG.2.5 - refine process of identifying important points, using abbreviations and using shortcuts in the right column of Cornell notes

AV.9.ORG.2.6 - begin writing higher-level questions in the left column that correspond to chunks of information in the notes section

AV.9.ORG.2.7 - reflect on all notes taken during a unit of study after the test is returned and consider gaps of study that led to missed questions

Cluster 3 Research and Technology

The student will:

AV.9.ORG.3.1 - use technology in assignments and presentations, using standardized citation styles to cite sources

AV.9.ORG.3.2 - utilize technology to complete final drafts of assignments and conduct research

AV.9.ORG.3.3 - establish a professionally structured email address (e.g., first initial last name @emailprovider.com)

Cluster 4 Test Preparation and Test-Taking

The student will:

AV.9.ORG.4.1 - identify and reflect on areas of academic weakness and determine study and test-taking strategies that will aid in test preparation

AV.9.ORG.4.2 - prepare for upcoming assessments based upon the format of the tests and previous assessment results

AV.9.ORG.4.3 - understand grading rubric and prioritize time allotment on test sections based on point values

AV.9.ORG.4.4 - learn to effectively manage test anxiety

AV.9.ORG.4.5 - check all answers/responses prior to submitting test and change responses when sure of necessity

Domain REA: Reading

Cluster 1 Vocabulary

The student will:

AV.9.REA.1.1 - understand how to use context clues in interpreting new vocabulary

AV.9.REA.1.2 - incorporate new words garnered from reading into academic speech and writing

AV.9.REA.1.3 - determine or clarify the meaning of unknown and multiple meaning words using context clues and reference materials

Cluster 2 Textual Analysis

The student will:

AV.9.REA.2.1 - understand and use pre-reading strategies to build background knowledge of unfamiliar texts

AV.9.REA.2.2 - identify genre of text

AV.9.REA.2.3 - read and discuss various examples of text, including articles from fiction and non-fiction

AV.9.REA.2.4 - use multiple reading strategies, including Marking the Text and annotating text to identify claims and connect ideas

AV.9.REA.2.5 - use rereading strategies to recall critical concepts during discussions and essay writing

AV.9.REA.2.6 - use any subtitles to guide reading

AV.9.REA.2.7 - record summaries, connections and questions in the margins

Domain CR: College Readiness

Cluster 1 Guest Speakers

The student will:

AV.9.CR.1.1 - prepare for guest speaker presentations by creating questions for the speakers prior to their visit

AV.9.CR.1.2 - greet and escort guest speakers to the classroom

AV.9.CR.1.3 - use skills of listening and note-taking during presentations by guest speakers

AV.9.CR.1.4 - gather insight from a variety of guest speakers who discuss various aspects of their careers

AV.9.CR.1.5 - draft, peer edit, revise and create a final draft of a letter and/or project of appreciation to guest speakers

Cluster 2 Field Trips

The student will:

	<p>AV.9.CR.2.1 - participate in field trips to include one or two college/university visits that are different from previous year</p> <p>AV.9.CR.2.2 - engage in at least one "e-trip" that has an interactive component that is outside of the state</p> <p>AV.9.CR.2.3 - use skills of listening and note-taking during field trip experiences</p> <p>AV.9.CR.2.4 - draft, edit, revise and create final draft of writing that reflects on learning from field trip experience(s)</p> <p>Cluster 3 College and Career Knowledge The student will:</p> <p>AV.9.CR.3.1 - research college admission requirements, with emphasis on cost of living, tuition, and financial aid for a college of choice</p> <p>AV.9.CR.3.2 - continue developing a basic understanding of college vocabulary</p> <p>AV.9.CR.3.3 - research a career of interest based upon career values</p> <p>AV.9.CR.3.4 - participate in career awareness tests and activities to help build awareness of personal strengths</p> <p>Cluster 4 College Entrance Testing The student will:</p> <p>AV.9.CR.4.1 - take and analyze the results from a PLAN and/or PSAT test</p> <p>AV.9.CR.4.2 - develop vocabulary skills by reviewing roots, prefixes, suffixes, and ACT and SAT word lists</p> <p>AV.9.CR.4.3 - collaboratively problem solve PSAT/PLAN test preparatory items</p> <p>Cluster 5 College Admissions and Financial Aid The student will:</p> <p>AV.9.CR.5.1 - understand the importance of community service and grades as a requirement for scholarships</p> <p>AV.9.CR.5.2 - identify schools of interest and examine cost of attendance</p>
<p>General Notes:</p>	<p>Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination I (AVID I) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID II, III and IV. Teachers must receive training from AVID Center to teach this course.</p>

**Version
Requirements:**

These requirements include, but are not limited to, the Common Core State Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Common Core State Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.



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Course: Career Research and Decision Making-1700380

Direct link to this

page:<http://www.cpalms.org/Courses/CoursePagePublicPreviewCourse3865.aspx>

BASIC INFORMATION

Course Title:	Career Research and Decision Making
Course Number:	1700380
Course Abbreviated Title:	CAR RESA&DECI MAK
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Research and Critical Thinking SubSubject: General
Number of Credits:	Half credit (.5)
Status:	Draft - Board Approval Pending
General Notes:	<p>The purpose of this course is to further develop the career planning competencies mandated by section 1003.4156, Florida Statutes. This course will enable students to make informed career choices and develop the skills needed to successfully plan and apply for college or a job.</p> <p>The content should include, but not be limited to, the following:</p> <ul style="list-style-type: none">• goal-setting and decision-making processes• self-assessment• sources of career information• occupational fields and educational requirements - postsecondary education and training opportunities -writing, listening, viewing, and speaking skills for applications and interviews• financial planning and sources of educational financial assistance

	<ul style="list-style-type: none"> • career planning <p>After successfully completing this course, the student will:</p> <ol style="list-style-type: none"> 1. Identify and demonstrate use of the steps of systematic goal-setting and decision-making processes. 2. Demonstrate use of techniques for self-assessment (e.g., inventories, journals, surveys, interviews) to determine personal career interests and capabilities. 3. Demonstrate use of strategies for identifying personal strengths and weaknesses and making improvements. 4. Demonstrate use of career resources to identify preferred occupational fields, career opportunities within each field, employment prospects, and education or training requirements. 5. Demonstrate appropriate writing, listening, viewing, and speaking skills needed to successfully apply for postsecondary education or work (e.g., writing a letter of application, résumé, or essay; compiling a portfolio; filling out an application; participating in an interview). 6. Understand the importance of financial planning and demonstrate knowledge of varied types and sources of financial aid to obtain assistance for postsecondary education. 7. Develop a personal education and career plan.
<p>Verion Requirements:</p>	<p>These requirements include, but are not limited to, the benchmarks from the Next Generation Sunshine State Standards and Common Core State Standards that are most relevant to this course. Benchmarks correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Sunshine State Standards. Other subject areas and content may be used to fulfill course requirements.</p>

LACC.910.SL.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others ideas and expressing their own clearly and persuasively.

LACC.910.L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LACC.910.L.1.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

LACC.910.W.1.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

LACC.910.W.1.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

<p>HE.912.B.4.3:</p>	<p>Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. Remarks/Examples</p> <p>Effective verbal and nonverbal communication, compromise, and conflict-resolution.</p>
<p>HE.912.B.5.4:</p>	<p>Assess whether individual or collaborative decision making is needed to make a healthy decision. Remarks/Examples</p> <p>Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.</p>
<p>HE.912.C.2.2:</p>	<p>Compare how peers influence healthy and unhealthy behaviors. Remarks/Examples</p> <p>Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.</p>
<p>HE.912.C.2.3:</p>	<p>Assess how the school and community can affect personal health practice and behaviors.</p>

	<p>Remarks/Examples</p> <p>Healthier foods, required health education, health screenings, and enforcement of “no tolerance” policies related to all forms of violence, and AED availability and training.</p>
LACC.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LACC.910.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
LACC.910.RI.2.6:	Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LACC.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.
LACC.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LACC.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LACC.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LACC.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LACC.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9–10 Language standards 1 and 3 for specific expectations.)
LACC.910.W.2.4:	Produce clear and coherent writing in which the development,

	organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
<u>LACC.910.W.2.5:</u>	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10.)
<u>LACC.910.W.2.6:</u>	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.
<u>LACC.910.W.3.8:</u>	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
<u>MA.912.F.1.1:</u>	<p>Explain the difference between simple and compound interest. Remarks/Examples</p> <p>Example: Compare the similarities and differences for calculating the final amount of money in your savings account based on simple interest or compound interest.</p>
<u>MA.912.F.3.10:</u>	<p>Calculate the effects on the monthly payment in the change of interest rate based on an adjustable rate mortgage. Remarks/Examples</p> <p>Example: You would like to borrow \$245,000 using a 30-year, 1-year ARM indexed to the 1-year Treasury security with a 2.75 percent margin and 2/6 caps (2 percent per year and 6 percent lifetime). The initial interest rate on this loan is 2.75 percent. The lender is charging you 1.50 points and \$1,200 in miscellaneous fees to close the loan.</p> <p>a) What is the initial payment on this mortgage? b) If the 1- year Treasury security is yielding 2.25 percent at the first adjustment date, what is your payment on this loan during the second year? c) Suppose that the 1-year Treasury is yielding 2.75 percent at the</p>

	<p>second adjustment date. What is the new payment on this loan during the third year? d) Assuming that you pay of the loan at the end of the third year, what yield did the lender earn on this loan?</p> <p>Now resolve all four parts of the last problem assuming that the loan has a 20 percent payment cap instead of 2/6 interest rate caps. a) What is the initial payment on this mortgage? b) If the 1- year Treasury security is yielding 2.25 percent at the first adjustment date, what is your payment on this loan during the second year? c) Suppose that the 1-year Treasury is yielding 2.75 percent at the second adjustment date. What is the new payment on this loan during the third year? d) Assuming that you pay of the loan at the end of the third year, what yield did the lender earn on this loan?</p>
<p><u>MA.912.F.3.11:</u></p>	<p>Calculate the final pay out amount for a balloon mortgage. Remarks/Examples</p> <p>Example: If you have a 5-year balloon mortgage with a 15 year amortization schedule, a rate of 6.5%, and a \$100,000 loan what would the remaining balance be after the end of the fifth year?</p>
<p><u>MA.912.F.3.12:</u></p>	<p>Compare the cost of paying a higher interest rate and lower points versus a lower interest rate and more points. Remarks/Examples</p> <p>Example: Assuming all of the following were originally 15 year mortgages, which fixed rate mortgage cost the mortgagor the least?</p> <p>a) 7.375% interest + 0 points paid off in 10 years b) 7.375% interest + 0 points paid off in 7 years c) 7 % interest + 3 points paid off in 10 years d) 7 % interest + 3 points paid off in 7 years</p>
<p><u>MA.912.F.3.13:</u></p>	<p>Calculate the total amount paid for the life of a loan for a house including the down payment, points, fees, and interest. Remarks/Examples</p> <p>Example: Calculate the total amount paid for a \$100,000 house with</p>

	<p>a 15 year fixed rate loan at 5.65% if the mortgagor pays a \$25,000 down payment; 2 points; 1% origination fee; maximum brokerage fee on a net loan; and State Documentary Stamps on the deed at a tax rate of \$.70 per \$100, the mortgage note at a tax rate of \$.35 per \$100, a and Intangible Tax at a rate of .002.</p>
<p><u>MA.912.F.3.14:</u></p>	<p>Compare the total cost for a set purchase price using a fixed rate, adjustable rate, and a balloon mortgage. Remarks/Examples</p> <p>Example: Find the total cost for a \$225,000 mortgage for the following options:</p> <p>a) 30 year fixed rate mortgage with a rate of 6.35 % b) 3/1 ARM with a rate of 6.75% with a maximum adjustment of 2 points per year with a cap of 6 points for 30 years c) 10 year balloon mortgage with a 30 year amortization schedule with a rate of 5.5%</p> <p>Next describe the benefits and detriments of each mortgage option.</p>
<p><u>MA.912.F.3.2:</u></p>	<p>Analyze credit scores and reports. Remarks/Examples</p> <p>Example: Explain how each of the following categories affects a credit score: 1) past payment history, 2) amount of debt, 3) public records information, 4) length of credit history, and 5) the number of recent credit inquiries.</p>
<p><u>MA.912.F.3.3:</u></p>	<p>Calculate the finance charges and total amount due on a credit card bill. Remarks/Examples</p> <p>Example: Calculate the finance charge each month and the total amount paid for 5 months if you charged \$500 on your credit card but you can only afford to pay \$100 each month. Your credit card has a monthly periodic finance rate of .688% and an annual finance rate of 8.9%.</p>
<p><u>MA.912.F.3.4:</u></p>	<p>Compare the advantages and disadvantages of deferred payments. Remarks/Examples</p> <p>Example: Compare paying on a college loan between a Stafford loan or a PLUS loan two years after graduation</p>

<p><u>MA.912.F.3.5:</u></p>	<p>Calculate deferred payments. Remarks/Examples</p> <p>Example: You want to buy a sofa that cost \$899. Company A will let you pay \$100 down and then pay the remaining amount over 3 years at 22% interest. Company B will not make you pay a down payment and they will defer payments for one year. However, you will accrue interest at a rate of 20 % interest during that first year. Starting the second year you will have to pay the new amount for 2 years at a rate of 26 % interest. Which deal is better and why? Calculate the total amount paid for both deals. Example: An electronics company advertises that you don't have to pay anything for 2 years. If you bought a big screen TV for \$2999 on January 1st what would your balance be two years later if you haven't made any payments assuming an interest rate of 23.99%? What would your monthly payments be to pay the TV off in 2 years? What did the TV really cost you?</p>
<p><u>MA.912.F.3.6:</u></p>	<p>Calculate total cost of purchasing consumer durables over time given different down payments, financing options, and fees. Remarks/Examples</p> <p>Example: Find the actual cost of a car and interest charged with a showroom price of \$15,999, down payment of \$1,600, rate of interest of 12%, and 30 monthly payments.</p>
<p><u>MA.912.F.3.9:</u></p>	<p>Calculate the total amount to be paid over the life of a fixed rate loan. Remarks/Examples</p> <p>Example: Calculate the total amount to be paid for a \$275,000 loan at 5.75% interest over 30 years</p>
<p><u>MA.912.F.4.1:</u></p>	<p>Develop personal budgets that fit within various income brackets. Remarks/Examples</p> <p>Example: Develop a budget worksheet that includes typical expenses such as housing, transportation, utilities, food, medical expenses, and miscellaneous expenses. Add categories for savings toward your own financial goals, and determine the monthly income needed, before taxes, to meet the requirements of your budget.</p>

<u>MA.912.F.4.2:</u>	<p>Explain cash management strategies including debit accounts, checking accounts, and savings accounts.</p> <p>Remarks/Examples</p> <p>Example: Explain the difference between a checking account and a savings account. Why might you want to have both types of accounts? Why might you want to have only one or the other type? Why is it rare to find someone who has a savings account but no checking account?</p>
<u>MA.912.F.4.3:</u>	<p>Calculate net worth.</p> <p>Remarks/Examples</p> <p>Example: Jose is trying to prepare a balance sheet for the end of the year. His balances and details for the year are given in the table below. Write a balance sheet of Jose's liabilities and assets, and compute his net worth.</p>
<u>MA.912.F.4.4:</u>	<p>Establish a plan to pay off debt.</p> <p>Remarks/Examples</p> <p>Example: Suppose you currently have a balance of \$4500 on a credit card that charges 18% annual interest. What monthly payment would you have to make in order to pay off the card in 3 years, assuming you do not make any more charges to the card?</p>
<u>MA.912.F.4.5:</u>	<p>Develop and apply a variety of strategies to use tax tables, and to determine, calculate, and complete yearly federal income tax.</p> <p>Remarks/Examples</p> <p>Example: Suppose that Joe had income of \$40,000 in 2005, and had various deductions totaling \$6,240. If Joe filed as a single person, how much income tax did he have to pay that year?</p>
<u>MA.912.F.4.6:</u>	<p>Compare different insurance options and fees.</p>
<u>MA.912.F.4.7:</u>	<p>Compare and contrast the role of insurance as a device to mitigate risk and calculate expenses of various options.</p> <p>Remarks/Examples</p> <p>Example: Explain why a person might choose to buy life insurance. Are there any circumstances under which one might not want life</p>

	insurance?
<p><u>MA.912.F.4.8:</u></p>	<p>Collect, organize, and interpret data to determine an effective retirement savings plan to meet personal financial goals.</p> <p>Remarks/Examples</p> <p>Example: Investigate historical rates of return for stocks, bonds, savings accounts, mutual funds, as well as the relative risks for each type of investment. Organize your results in a table showing the relative returns and risks of each type of investment over short and long terms, and use these data to determine a combination of investments suitable for building a retirement account sufficient to meet anticipated financial needs.</p>
<p><u>MA.912.F.4.9:</u></p>	<p>Calculate, compare, and contrast different types of retirement plans, including IRAs, ROTH accounts, and annuities.</p> <p>Remarks/Examples</p> <p>Example: Suppose you put \$5000 per year into an IRA for 40 years. If the account pays 6% per year interest, how much would you have at the end of the 40 years? If, at that time, you are in the 15% income tax bracket, how much would this be after taxes?</p> <p>Suppose that, instead, you paid the tax each year on the \$5000 at your current rate of 28% and put the remaining funds in a ROTH account paying 6% interest. How much would you then have after 40 years?</p> <p>Which appears to be the better option? What are some of the risks of deferring tax payments until retirement?</p> <p>Example: Explain the difference between an Individual Retirement Account (IRA) and a ROTH account.</p> <p>Why might somebody choose to put retirement funds in a ROTH account rather than an IRA?</p>
<p><u>MACC.K12.MP.1.1:</u></p>	<p>Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make</p>

	<p>conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>
<p><u>SS.912.E.1.14:</u></p>	<p>Compare credit, savings, and investment services available to the consumer from financial institutions.</p>
<p><u>SS.912.E.1.15:</u></p>	<p>Describe the risk and return profiles of various investment vehicles and the importance of diversification.</p> <p>Remarks/Examples</p> <p>Examples are savings accounts, certificates of deposit, stocks, bonds, mutual funds, Individual Retirement Accounts.</p>
<p><u>SS.912.E.1.16:</u></p>	<p>Construct a one-year budget plan for a specific career path including expenses and construction of a credit plan for purchasing a major item.</p> <p>Remarks/Examples</p> <p>Examples of a career path are university student, trade school student, food service employee, retail employee, laborer, armed forces enlisted personnel.</p> <p>Examples of a budget plan are housing expenses, furnishing, utilities, food costs, transportation, and personal expenses - medical, clothing, grooming, entertainment and recreation, and gifts and contributions.</p> <p>Examples of a credit plan are interest rates, credit scores, payment plan.</p>

<p><u>MACC.K12.MP.3.1:</u></p>	<p>Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>
<p><u>MACC.K12.MP.5.1:</u></p>	<p>Use appropriate tools strategically.</p> <p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to</p>

	<p>visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>
<p><u>MACC.K12.MP.6.1:</u></p>	<p>Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>
<p><u>SS.912.E.1.13:</u></p>	<p>Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.</p>
<p><u>SS.912.E.1.5:</u></p>	<p>Compare different forms of business organizations.</p> <p>Remarks/Examples</p> <p>Examples are sole proprietorship, partnership, corporation, limited liability corporation.</p>
<p><u>SS.912.E.2.1:</u></p>	<p>Identify and explain broad economic goals.</p> <p>Remarks/Examples</p> <p>Examples are freedom, efficiency, equity, security, growth, price stability, full employment.</p>
<p><u>SS.912.E.2.8:</u></p>	<p>Differentiate between direct and indirect taxes, and describe the progressivity of taxes (progressive, proportional, regressive).</p> <p>Remarks/Examples</p>

	Examples are income, sales, social security.
<u>SS.912.P.12.2:</u>	Define processes involved in problem solving and decision making. Remarks/Examples Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
<u>SS.912.P.12.4:</u>	Describe obstacles to problem solving. Remarks/Examples Examples may include, but are not limited to, fixation and functional fixedness.
<u>SS.912.P.12.5:</u>	Describe obstacles to decision making. Remarks/Examples Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.

RELATED GLOSSARY TERM DEFINITIONS (10)

Compound Interest:	A method of computing interest in which interest is computed from the up-to-date balance. That is, interest is earned on the interest and not just on original balance.
Difference:	A number that is the result of subtraction
Length:	A one-dimensional measure that is the measurable property of line segments.
Net:	A two-dimensional diagram that can be folded or made into a three-dimensional figure.
Percent:	Per hundred; a special ratio in which the denominator is always 100. The language of percent may change depending on the context. The most common use is in part-whole contexts, for example, where a

	subset is 40 percent of another set. A second use is change contexts, for example, a set increases or decreases in size by 40 percent to become 140% or 60% of its original size. A third use involves comparing two sets, for example set A is 40% of the size of set B, in other words, set B is 250 percent of set A.
Point:	A specific location in space that has no discernable length or width.
Rate:	A ratio that compares two quantities of different units.
Set:	A set is a finite or infinite collection of distinct objects in which order has no significance.
Similarity:	A term describing figures that are the same shape but are not necessarily the same size or in the same position.
Table:	A data display that organizes information about a topic into categories using rows and columns.



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	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
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[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

<u>PE.912.M.1.12 :</u>	<p>Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is performing plyometrics.</p>
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<u>PE.912.M.1.13 :</u>	<p>Perform a student-designed cardiorespiratory enhancing workout.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.14 :</u>	<p>Utilize technology to assess, enhance and maintain health and skill-related fitness levels.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.</p>
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<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.16 :</u>	<p>Apply the principles of training and conditioning to accommodate individual needs and strengths.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and</p>
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	progression.
<u>PE.912.M.1.19 :</u>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.33 :</u>	<p>Practice complex motor activities in order to improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.34 :</u>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.2 :</u>	<p>Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>
<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory</p>

	and defeat.
<p><u>PE.912.R.5.4 :</u></p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.1 :</u></p>	<p>Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<p><u>PE.912.R.6.2 :</u></p>	<p>Analyze physical activities from which benefits can be derived. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction. Remarks/Examples Some examples of potential benefits are physical, mental, emotional and social.</p>
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Weight Training 3- 1501360

BASIC INFORMATION

Course Title:	Weight Training 3
Course Number:	1501360
Course Abbreviated Title:	WEIGHT TRAIN 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (26)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.17 :](#)

Assess physiological effects of exercise during and after physical activity.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples are breathing, resting heart rate and blood pressure.

[PE.912.C.2.22 :](#)

Explain the skill-related components of fitness and how they

	<p>enhance performance levels. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.2 :</u>	<p>Participate in a variety of activities that promote the health-related components of fitness.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p> <p>Remarks/Examples</p> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>

PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

<u>PE.912.L.4.2 :</u>	<p>Identify ways to self-assess and modify a personal fitness program.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<u>PE.912.L.4.4 :</u>	<p>Use available technology to assess, design and evaluate a personal fitness program.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<u>PE.912.L.4.5 :</u>	<p>Apply the principles of training to personal fitness goals.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and progression.</p>

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms

from a variety of categories.

PE.912.M.1.12 :

Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example is performing plyometrics.

PE.912.M.1.16 :

Apply the principles of training and conditioning to accommodate individual needs and strengths.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples of training principles are overload, specificity and progression.

PE.912.M.1.19 :

Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.30 :

Combine and apply movement patterns from simple to complex.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.33 :

Practice complex motor activities in order to improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.2 :

Analyze physical activities from which benefits can be derived.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Remarks/Examples

Some examples of potential benefits are physical, mental, emotional and social.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Wrestling 2- 1505560

BASIC INFORMATION

Course Title:	Wrestling 2
Course Number:	1505560
Course Abbreviated Title:	WRESTLING 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (20)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.A-REI.4 Represent and solve equations and inequalities graphically](#)

[MACC.912.A-REI.4.10 :](#)

Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Cognitive Complexity: Level 1: Recall | Date Adopted or Revised: 12/10
Belongs to: [Represent and solve equations and inequalities graphically](#)

Remarks/Examples

Algebra 1, Unit 2: For A.REI.10, focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses.

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of](#)

physical activities.

PE.912.C.2.21 :

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.24 :

Analyze the mechanical principles as they apply to specific course activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)
Remarks/Examples

Some examples are balance, force and leverage.

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.2 :

Participate in a variety of activities that promote the health-related components of fitness.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Participate regularly in physical activity.](#)
Remarks/Examples

	The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
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[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

<u>PE.912.M.1.13 :</u>	Perform a student-designed cardiorespiratory enhancing workout. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
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<u>PE.912.M.1.19 :</u>	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
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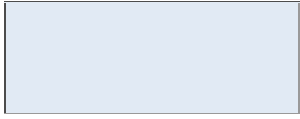
<u>PE.912.M.1.26 :</u>	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
	Remarks/Examples
	An example is placing a shot in an open area away from opponent.

<u>PE.912.M.1.32 :</u>	Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
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<u>PE.912.M.1.34 :</u>	Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
	Remarks/Examples
	Some examples are balance, force and leverage.

<u>PE.912.M.1.35 :</u>	Select proper equipment and apply all appropriate safety procedures necessary for participation.
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	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.5 :</u></p>	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>	
<p><u>PE.912.R.5.3 :</u></p>	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.4 :</u></p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p>



Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Wrestling 1- 1505550

BASIC INFORMATION

Course Title:	Wrestling 1
Course Number:	1505550
Course Abbreviated Title:	WRESTLING 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (16)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.24 :](#)

Analyze the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples are balance, force and leverage.

[PE.912.C.2.28 :](#)

Interpret and apply the rules associated with specific course activities.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
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PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.2 :</u>	<p>Participate in a variety of activities that promote the health-related components of fitness. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity. Remarks/Examples</p> <hr/> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
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PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.19 :</u>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.31 :</u>	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.34 :</u>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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	<p>movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<p>PE.912.M.1.35 :</p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.5 :</p>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
<p>PE.912.R.5.3 :</p>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<p>PE.912.R.5.4 :</p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p>PE.912.R.5.5 :</p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self</p>

and others in physical-activity settings.

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Individual and Dual Sports 1- 1502410

BASIC INFORMATION

Course Title:	Individual and Dual Sports 1
Course Number:	1502410
Course Abbreviated Title:	INDIV/DUAL SPRTS 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (22)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2](#) :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20](#) :

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23](#) :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.27 :

Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples are volleyball and tennis serve, surfing and skate boarding.

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up

	<p>activity. An example of a real-life application is a game or performance setting.</p>
<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.25 :</u>	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.31 :</u>	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.33 :</u>	<p>Practice complex motor activities in order to improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>	

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.1 :

Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Tennis 3- 1504520

BASIC INFORMATION

Course Title:	Tennis 3
Course Number:	1504520
Course Abbreviated Title:	TENNIS 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (26)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<u>PE.912.C.2.25 :</u>	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.26 :</u>	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.28 :</u>	Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.9 :</u>	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.4 :</u>	Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.5 :</u>	Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.6 :</u>	Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.10 :](#)

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

[PE.912.M.1.22 :](#)

Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.23 :](#)

Demonstrate proficiency of critical elements when striking with objects, implements or body parts.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.24 :](#)

Apply a combination of complex movement patterns in a game setting.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.26 :](#)

Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example is placing a shot in an open area away from opponent.

[PE.912.M.1.30 :](#)

Combine and apply movement patterns from simple to complex.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few,](#)

	movement forms from a variety of categories.
<u>PE.912.M.1.32 :</u>	Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.33 :</u>	Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.34 :</u>	Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.
<u>PE.912.M.1.35 :</u>	Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.5 :</u>	Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.3 :</u>	Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Tennis 2- 1504510

BASIC INFORMATION

Course Title:	Tennis 2
Course Number:	1504510
Course Abbreviated Title:	TENNIS 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (26)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.9 :

Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or

	performance setting.
<u>PE.912.M.1.22</u> :	<p>Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.23</u> :	<p>Demonstrate proficiency of critical elements when striking with objects, implements or body parts.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.24</u> :	<p>Apply a combination of complex movement patterns in a game setting.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.25</u> :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.26</u> :	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p> <p>Remarks/Examples</p> <p>An example is placing a shot in an open area away from opponent.</p>
<u>PE.912.M.1.30</u> :	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.31</u> :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>

<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>		
<u>PE.912.M.1.33 :</u>	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>		
<u>PE.912.M.1.34 :</u>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u> Remarks/Examples</p> <table border="1"> <tr> <td>Some examples are balance, force and leverage.</td> </tr> <tr> <td> </td> </tr> </table>	Some examples are balance, force and leverage.	
Some examples are balance, force and leverage.			
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>		
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>		
<p><u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>			
<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u> Remarks/Examples</p> <table border="1"> <tr> <td>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</td> </tr> <tr> <td> </td> </tr> </table>	Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.	
Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.			
<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while</p>		

	<p>participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples</p> <hr/> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Tennis 1- 1504500

BASIC INFORMATION

Course Title:	Tennis 1
Course Number:	1504500
Course Abbreviated Title:	TENNIS 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (23)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.26 :](#)

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

PE.912.M.1.15 :

Select and apply sport/activity specific warm-up and cool-down techniques.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.23 :

Demonstrate proficiency of critical elements when striking with objects, implements or body parts.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

	Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.24 :	Apply a combination of complex movement patterns in a game setting. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.25 :	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.31 :	Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.32 :	Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.33 :	Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.34 :	Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.
PE.912.M.1.35 :	Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.5 :	Apply strategies for self improvement based on individual strengths and needs.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.5 :</u>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
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PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

<u>PE.912.R.6.3 :</u>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
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Course: Team Sports 2- 1503360

BASIC INFORMATION

Course Title:	Team Sports 2
Course Number:	1503360
Course Abbreviated Title:	TEAM SPRTS 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement, knowledge of team sports concepts such as offensive and defensive strategies and tactics, and appropriate social behaviors within a team or group setting. The integration of fitness concepts throughout the content is critical to the success of this course.

STANDARDS (28)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.20 :

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

	<p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.21</u> :	<p>Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.23</u> :	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.25</u> :	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.26</u> :	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.27</u> :	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<u>PE.912.C.2.28</u> :	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

	performance in a variety of physical activities.
<u>PE.912.C.2.9 :</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
<u>PE.912.L.3 Participate regularly in physical activity.</u>	
<u>PE.912.L.3.4 :</u>	<p>Identify the in-school opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.5 :</u>	<p>Identify the community opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u>	
<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques.</p>

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.19 :	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.23 :	<p>Demonstrate proficiency of critical elements when striking with objects, implements or body parts. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.35 :	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.5 :	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
PE.912.R.5.2 :	<p>Develop strategies for including persons of diverse backgrounds</p>

	<p>and abilities while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.5.3 :</u></p>	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.4 :</u></p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.1 :</u></p>	<p>Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p>



Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Team Sports 1- 1503350

BASIC INFORMATION

Course Title:	Team Sports 1
Course Number:	1503350
Course Abbreviated Title:	TEAM SPRTS 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement, knowledge of team sports concepts such as offensive and defensive strategies and tactics, and appropriate social behaviors within a team or group setting. The integration of fitness concepts throughout the content is critical to the success of this course.

STANDARDS (25)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.20 :

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

	Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
PE.912.C.2.21 :	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
PE.912.C.2.23 :	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
PE.912.C.2.25 :	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
PE.912.C.2.28 :	Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
PE.912.C.2.9 :	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples of precautions are hydration and appropriate attire.
PE.912.L.3 Participate regularly in physical activity.	
PE.912.L.3.4 :	Identify the in-school opportunities for participation in a variety of physical activities.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.5 :</u>	<p>Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>	
<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.23 :</u>	<p>Demonstrate proficiency of critical elements when striking with objects, implements or body parts. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.31 :</u>	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>

PE.912.M.1.33 :

Practice complex motor activities in order to improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.2 :

Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.1 :

Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Swimming 2- 1504470

BASIC INFORMATION

Course Title:	Swimming 2
Course Number:	1504470
Course Abbreviated Title:	SWIMMING 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (24)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.1 :](#)

Identify and describe the critical elements of a basic water rescue.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.7 :

Evaluate the effectiveness of specific warm-up and cool-down activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.9 :

Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.1 :

Demonstrate critical elements of basic skills relating to aquatics.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples</p> <p>Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.</p>
<p><u>PE.912.M.1.10 :</u></p>	<p>Apply sport specific skills in simulation and in real-life applications. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<p><u>PE.912.M.1.2 :</u></p>	<p>Demonstrate proficiency in combination of motor skills related to aquatics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples</p> <p>Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.</p>
<p><u>PE.912.M.1.3 :</u></p>	<p>Perform a basic water rescue, with or without equipment, without entering the water. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.30 :</u></p>	<p>Combine and apply movement patterns from simple to complex. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.33 :</u></p>	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.34 :</u></p>	<p>Demonstrate use of the mechanical principles as they apply to</p>

	<p>specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.</p>
PE.912.M.1.35 :	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.4 :	<p>Perform refinement of one or more swim strokes to enhance efficiency, power and cardiorespiratory endurance in a variety of aquatics settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples of aquatic settings are a pool, a lake and open water.</p>
PE.912.M.1.5 :	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
PE.912.R.5.3 :	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
PE.912.R.5.4 :	<p>Maintain appropriate personal, social and ethical behavior while</p>

	<p>participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples</p> <hr/> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Swimming 1- 1504460

BASIC INFORMATION

Course Title:	Swimming 1
Course Number:	1504460
Course Abbreviated Title:	SWIMMING 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (20)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.9 :

Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.1 :

Demonstrate critical elements of basic skills relating to aquatics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

	<p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<p><u>PE.912.M.1.15 :</u></p>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.2 :</u></p>	<p>Demonstrate proficiency in combination of motor skills related to aquatics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u> Remarks/Examples Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.</p>
<p><u>PE.912.M.1.3 :</u></p>	<p>Perform a basic water rescue, with or without equipment, without entering the water. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.33 :</u></p>	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.34 :</u></p>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u> Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.M.1.35 :</u></p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few,</u></p>

[movement forms from a variety of categories.](#)

[PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

[PE.912.R.5.3 :](#)

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

[PE.912.R.5.4 :](#)

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

[PE.912.R.5.5 :](#)

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

[PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

[PE.912.R.6.3 :](#)

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Sports Officiating- 1502500

BASIC INFORMATION

Course Title:	Sports Officiating
Course Number:	1502500
Course Abbreviated Title:	SPRTS OFFICIATING
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: General
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (18)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20 :](#)

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.25 :

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

PE.912.M.1.15 :

Select and apply sport/activity specific warm-up and cool-down techniques.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.35 :	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.5 :	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
PE.912.R.5.1 :	<p>Describe ways to act independently of peer pressure during physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
PE.912.R.5.3 :	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples</p>
	<p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
PE.912.R.5.4 :	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples</p>
	<p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
DE 912 R 5 E :	<p>Demonstrate appropriate etiquette, care of equipment, respect for</p>

facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

[PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

[PE.912.R.6.3 :](#)

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Softball- 1503330

BASIC INFORMATION

Course Title:	Softball
Course Number:	1503330
Course Abbreviated Title:	SOFTBALL
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (32)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2](#) :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20](#) :

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21](#) :

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<p><u>PE.912.C.2.22 :</u></p>	<p>Explain the skill-related components of fitness and how they enhance performance levels. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.28 :</u></p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

	performance in a variety of physical activities.
<u>PE.912.C.2.7 :</u>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.9 :</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
<u>PE.912.L.3 Participate regularly in physical activity.</u>	
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u>	
<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE 912 M 1 15 :</u>	Select and apply sport/activity specific warm-up and cool-down

	<p>techniques.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.23 :	<p>Demonstrate proficiency of critical elements when striking with objects, implements or body parts.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.24 :	<p>Apply a combination of complex movement patterns in a game setting.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.25 :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.26 :	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is placing a shot in an open area away from opponent.</p>
PE.912.M.1.30 :	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>

<u>PE.912.M.1.33 :</u>	Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.34 :</u>	Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.
<u>PE.912.M.1.35 :</u>	Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.5 :</u>	Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.2 :</u>	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.
<u>PE.912.R.5.3 :</u>	Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Soccer- 1503320

BASIC INFORMATION

Course Title:	Soccer
Course Number:	1503320
Course Abbreviated Title:	SOC CER
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (31)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20 :](#)

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<p><u>PE.912.C.2.22 :</u></p>	<p>Explain the skill-related components of fitness and how they enhance performance levels. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.28 :</u></p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

	performance in a variety of physical activities.
<u>PE.912.C.2.9 :</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.4 :</u>	<p>Identify the in-school opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.5 :</u>	<p>Identify the community opportunities for participation in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques.</p>

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.24 :	<p>Apply a combination of complex movement patterns in a game setting. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.25 :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.26 :	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example is placing a shot in an open area away from opponent.</p>
PE.912.M.1.30 :	<p>Combine and apply movement patterns from simple to complex. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.34 :	<p>Demonstrate use of the mechanical principles as they apply to</p>

	<p>specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.</p>
<p>PE.912.M.1.35 :</p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.5 :</p>	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
<p>PE.912.R.5.2 :</p>	<p>Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p>PE.912.R.5.3 :</p>	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<p>PE.912.R.5.4 :</p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings. Remarks/Examples Some examples are respecting teammates, opponents and</p>

	officials, and accepting both victory and defeat.
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Self Defense Activities- 1502460

BASIC INFORMATION

Course Title:	Self Defense Activities
Course Number:	1502460
Course Abbreviated Title:	SELF DEFENSE
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (20)

[LACC.910.L.3 Vocabulary Acquisition and Use](#)

[LACC.910.L.3.6 :](#)

Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

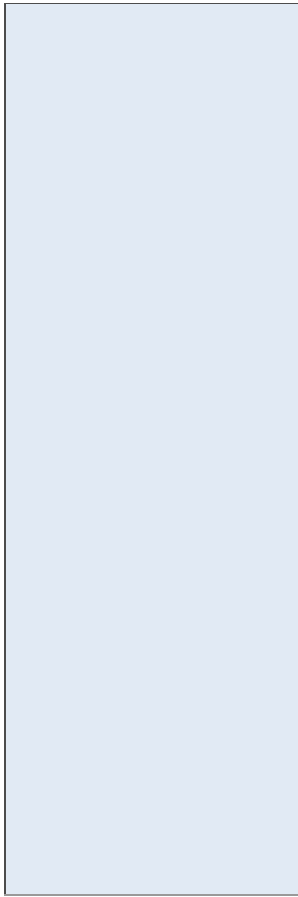
Belongs to: [Vocabulary Acquisition and Use](#)

[LACC.910.SL.1 Comprehension and Collaboration](#)

[LACC.910.SL.1.1 :](#)

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- a. Come to discussions prepared, having read and researched

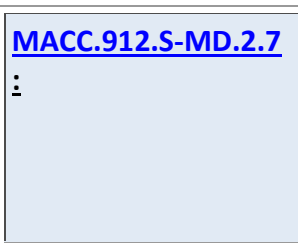


material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-MD.2 Use probability to evaluate outcomes of decisions

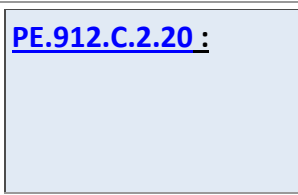


MACC.912.S-MD.2.7
:

Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Use probability to evaluate outcomes of decisions](#)

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.



PE.912.C.2.20 :

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



PE.912.C.2.25 :

Analyze and evaluate the risks, safety procedures, rules and

	<p>equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
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[PE.912.L.3 Participate regularly in physical activity.](#)

<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
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<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
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[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

<u>PE.912.M.1.12 :</u>	<p>Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is performing plyometrics.</p>
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<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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<u>PE.912.M.1.16 :</u>	<p>Apply the principles of training and conditioning to accommodate individual needs and strengths. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and progression.</p>
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<u>PE.912.M.1.19 :</u>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.20 :</u>	<p>Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.29 :</u>	<p>Demonstrate proficiency in self-defense movement skills.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.30 :</u>	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.1 :</u>	<p>Describe ways to act independently of peer pressure during physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.2 :

Analyze physical activities from which benefits can be derived.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Remarks/Examples

Some examples of potential benefits are physical, mental, emotional and social.

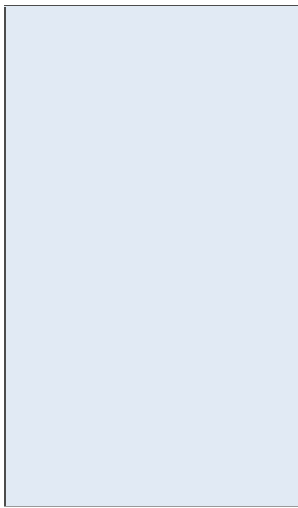
Course: Recreational Activities- 1502470

BASIC INFORMATION

Course Title:	Recreational Activities
Course Number:	1502470
Course Abbreviated Title:	REC
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: General
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending

STANDARDS (25)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader

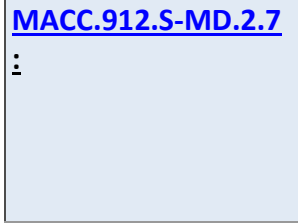


themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-MD.2 Use probability to evaluate outcomes of decisions](#)



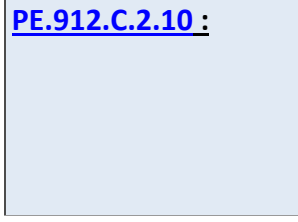
[MACC.912.S-MD.2.7](#)

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Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Use probability to evaluate outcomes of decisions](#)

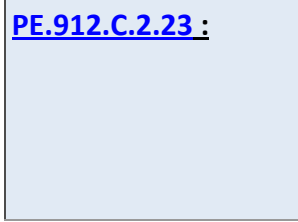
[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.10](#)

Analyze long-term benefits of regularly participating in physical activity.

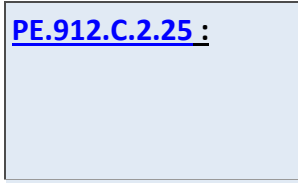
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.23](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.25](#)

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

	performance in a variety of physical activities.
<u>PE.912.C.2.26 :</u>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.28 :</u>	<p>Interpret and apply the rules associated with specific course activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.9 :</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
<u>PE.912.L.3 Participate regularly in physical activity.</u>	
<u>PE.912.L.3.2 :</u>	<p>Participate in a variety of activities that promote the health-related components of fitness.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p> <p>Remarks/Examples</p> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.4 :</u>	<p>Identify the in-school opportunities for participation in a variety of physical activities.</p>

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.5 :</u>	<p>Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>	
<u>PE.912.M.1.1 :</u>	<p>Demonstrate critical elements of basic skills relating to aquatics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.</p>
<u>PE.912.M.1.15 :</u>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.28 :</u>	<p>Apply strategies and tactics in a variety of outdoor pursuits. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.31 :</u>	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.9 :</u>	<p>Demonstrate complex skills and advanced rhythmic movements in dance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples</p>

	Some examples are line, hip-hop, country and folk.
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[PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

<u>PE.912.R.5.2 :</u>	<p>Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
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<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.5 :</u>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
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[PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

<u>PE.912.R.6.1 :</u>	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal
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	<p>enjoyment and the attainment or maintenance of a healthy lifestyle.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<p><u>PE.912.R.6.2 :</u></p>	<p>Analyze physical activities from which benefits can be derived.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p> <p>Remarks/Examples</p> <hr/> <p>Some examples of potential benefits are physical, mental, emotional and social.</p> <hr/>
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Racquetball 2- 1505440

BASIC INFORMATION

Course Title:	Racquetball 2
Course Number:	1505440
Course Abbreviated Title:	RACQUETBALL 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (24)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.25 :

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.22 :

Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.23 :

Demonstrate proficiency of critical elements when striking with

	<p>objects, implements or body parts. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.24 :</p>	<p>Apply a combination of complex movement patterns in a game setting. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.25 :</p>	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.26 :</p>	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is placing a shot in an open area away from opponent.</p>
<p>PE.912.M.1.32 :</p>	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.33 :</p>	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.M.1.34 :</p>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Racquetball 1- 1505430

BASIC INFORMATION

Course Title:	Racquetball 1
Course Number:	1505430
Course Abbreviated Title:	RACQUETBALL 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (22)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.25 :](#)

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.15 :

Select and apply sport/activity specific warm-up and cool-down techniques.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.23 :

Demonstrate proficiency of critical elements when striking with objects, implements or body parts.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.25 :

Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.34 :	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p>
PE.912.M.1.35 :	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.5 :	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
PE.912.R.5.3 :	<p>Demonstrate sportsmanship during game situations. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Exhibit responsible personal and social behavior that respects self</p>

	<p>and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<p>PE.912.R.5.4 :</p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p>PE.912.R.5.5 :</p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>	
<p>PE.912.R.6.3 :</p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Power Weight Training 1- 1501410

BASIC INFORMATION

Course Title:	Power Weight Training 1
Course Number:	1501410
Course Abbreviated Title:	POWER WEIGHT TRAIN 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending

STANDARDS (26)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader

themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.14 :](#)

Compare and contrast the skill-related components of fitness used in various physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

The skill-related components of fitness are speed, coordination,

	balance, power, agility and reaction time.
<u>PE.912.C.2.17 :</u>	<p>Assess physiological effects of exercise during and after physical activity.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are breathing, resting heart rate and blood pressure.</p>
<u>PE.912.C.2.23 :</u>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.25 :</u>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.26 :</u>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.3 :</u>	<p>Analyze the movement performance of self and others.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are video analysis and checklist.</p>
<u>PE.912.C.2.7 :</u>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p>

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.2 :

Participate in a variety of activities that promote the health-related components of fitness.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

Remarks/Examples

The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

PE.912.L.4.2 :

Identify ways to self-assess and modify a personal fitness program.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.L.4.3 :

Identify strategies for setting goals when developing a personal fitness program.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.L.4.4 :

Use available technology to assess, design and evaluate a personal fitness program.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.L.4.5 :

Apply the principles of training to personal fitness goals.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness. Remarks/Examples Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>	
<p><u>PE.912.M.1.12 :</u></p>	<p>Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example is performing plyometrics.</p>
<p><u>PE.912.M.1.16 :</u></p>	<p>Apply the principles of training and conditioning to accommodate individual needs and strengths. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.M.1.19 :</u></p>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.30 :</u></p>	<p>Combine and apply movement patterns from simple to complex. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.34 :</u></p>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p>

	<p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.M.1.35</u> :</p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.5</u> :</p>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>	
<p><u>PE.912.R.5.5</u> :</p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.2</u> :</p>	<p>Analyze physical activities from which benefits can be derived.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p> <p>Remarks/Examples</p> <p>Some examples of potential benefits are physical, mental, emotional and social.</p>
<p><u>PE.912.R.6.3</u> :</p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Personal Fitness Trainer- 1501380

BASIC INFORMATION

Course Title:	Personal Fitness Trainer
Course Number:	1501380
Course Abbreviated Title:	Pers Fit Trainer
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Course length:	Year (Y)
Status:	Draft - Board Approval Pending

STANDARDS (58)

[HE.912.B.3 Accessing Information - Demonstrate the ability to access valid health information, products, and services to enhance health.](#)

[HE.912.B.3.4 :](#)

Justify when professional health services or providers may be required.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Accessing Information - Demonstrate the ability to access valid health information, products, and services to enhance health.](#)

Remarks/Examples

Injury, depression, suicide, drug abuse, medical emergency, 911, child abuse, domestic and/or dating violence, and natural or man-made conditions.

[HE.912.B.6 Goal Setting - Demonstrate the ability to use goal-setting skills to enhance health.](#)

[HE.912.B.6.2 :](#)

Formulate a plan to attain a personal health goal that addresses strengths, needs, and risks.

Cognitive Complexity: N/A | Date Adopted or Revised: N/A

Belongs to: [Goal Setting - Demonstrate the ability to use goal-setting skills to enhance health.](#)

	<p>Remarks/Examples</p> <p>Weight management, comprehensive physical fitness, stress management, dating relationships, risky behaviors, and a wellness-program plan.</p>
<p><u>HE.912.B.6.3 :</u></p>	<p>Implement strategies and monitor progress in achieving a personal health goal.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: N/A</p> <p>Belongs to: Goal Setting - Demonstrate the ability to use goal-setting skills to enhance health.</p> <p>Remarks/Examples</p> <p>Stress management, time out, using of a squeeze ball when frustrated, talking with a friend or professional, pacing yourself, setting realistic expectations, using rewards, getting support, and wellness promotion.</p>
<p><u>HE.912.C.1 Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.</u></p>	
<p><u>HE.912.C.1.4 :</u></p>	<p>Propose strategies to reduce or prevent injuries and health problems.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: N/A</p> <p>Belongs to: Core Concepts - Comprehend concepts related to health promotion and disease prevention to enhance health.</p> <p>Remarks/Examples</p> <p>Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.</p>
<p><u>HE.912.P.8 Advocacy - Demonstrate the ability to advocate for individual, peer, school, family, and community health.</u></p>	
<p><u>HE.912.P.8.1 :</u></p>	<p>Demonstrate how to influence and support others in making positive health choices.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: N/A</p> <p>Belongs to: Advocacy - Demonstrate the ability to advocate for individual, peer, school, family, and community health.</p> <p>Remarks/Examples</p> <p>Avoidance of underage drinking, prevention of driving under the</p>

influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.

[LACC.1112.RST.3 Integration of Knowledge and Ideas](#)

[LACC.1112.RST.3.7 :](#)

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Integration of Knowledge and Ideas](#)

[LACC.910.L.3 Vocabulary Acquisition and Use](#)

[LACC.910.L.3.6 :](#)

Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10
Belongs to: [Vocabulary Acquisition and Use](#)

[LACC.910.RL.2 Craft and Structure](#)

[LACC.910.RL.2.4 :](#)

Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Craft and Structure](#)

[LACC.910.SL.1 Comprehension and Collaboration](#)

[LACC.910.SL.1.1 :](#)

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

LACC.910.WHST.2 Production and Distribution of Writing

LACC.910.WHST.2.6 :

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10
 Belongs to: [Production and Distribution of Writing](#)

MACC.912.S-MD.2 Use probability to evaluate outcomes of decisions

MACC.912.S-MD.2.7 :

Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Use probability to evaluate outcomes of decisions](#)

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.10 :](#)

Analyze long-term benefits of regularly participating in physical activity.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.11 :](#)

Explain how each of the health-related components of fitness are improved through the application of training principles.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.

[PE.912.C.2.12 :](#)

Compare and contrast aerobic versus anaerobic activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.13 :](#)

Document food intake, calories consumed and energy expended through physical activity and analyze the results.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.14 :](#)

Compare and contrast the skill-related components of fitness used in various physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

The skill-related components of fitness are speed, coordination,

	<p>balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.15 :</u></p>	<p>Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.16 :</u></p>	<p>Explain the methods of monitoring levels of intensity during aerobic activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.</p>
<p><u>PE.912.C.2.17 :</u></p>	<p>Assess physiological effects of exercise during and after physical activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are breathing, resting heart rate and blood pressure.</p>
<p><u>PE.912.C.2.18 :</u></p>	<p>Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are weight-loss pills, food labels and exercise equipment.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.</p>

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.6 :</u></p>	<p>Compare and contrast the health-related benefits of various physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.8 :</u></p>	<p>Differentiate between the three different types of heat illnesses associated with fluid loss. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.</p>
<p><u>PE.912.C.2.9 :</u></p>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.2 :</u>	Participate in a variety of activities that promote the health-related components of fitness. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity. Remarks/Examples The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
<u>PE.912.L.3.6 :</u>	Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.

PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

<u>PE.912.L.4.1 :</u>	Design a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness. Remarks/Examples Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
<u>PE.912.L.4.2 :</u>	Identify ways to self-assess and modify a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.
<u>PE.912.L.4.3 :</u>	Identify strategies for setting goals when developing a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.
<u>PE.912.L.4.4 :</u>	Use available technology to assess, design and evaluate a personal fitness program. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

<p><u>PE.912.L.4.5 :</u></p>	<p>Apply the principles of training to personal fitness goals. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness. Remarks/Examples Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.L.4.6 :</u></p>	<p>Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.L.4.7 :</u></p>	<p>Evaluate how to make changes in an individual wellness plan as lifestyle changes occur. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<p><u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>	
<p><u>PE.912.M.1.12 :</u></p>	<p>Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example is performing plyometrics.</p>
<p><u>PE.912.M.1.13 :</u></p>	<p>Perform a student-designed cardiorespiratory enhancing workout. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.14 :</u></p>	<p>Utilize technology to assess, enhance and maintain health and skill-related fitness levels. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples</p>

	<p>Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.</p>
<p><u>PE.912.M.1.15 :</u></p>	<p>Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.16 :</u></p>	<p>Apply the principles of training and conditioning to accommodate individual needs and strengths. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u> Remarks/Examples Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.M.1.17 :</u></p>	<p>Demonstrate basic cardiopulmonary resuscitation (CPR) procedures. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.19 :</u></p>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.M.1.34 :</u></p>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u> Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.M.1.35 :</u></p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: <u>Demonstrate competency in many, and proficiency in a few,</u></p>

	movement forms from a variety of categories.
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.2 :</u>	<p>Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<u>PE.912.R.5.5 :</u>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u>	
<u>PE.912.R.6.1 :</u>	<p>Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<u>PE.912.R.6.2 :</u>	Analyze physical activities from which benefits can be derived.

	Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.
	Remarks/Examples
	Some examples of potential benefits are physical, mental, emotional and social.

[SC.912.L.14 Organization and Development of Living Organisms](#)

<u>SC.912.L.14.12</u> :	Describe the anatomy and histology of bone tissue. Cognitive Complexity: Level 1: Recall Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.16</u> :	Describe the anatomy and histology, including ultrastructure, of muscle tissue. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.17</u> :	List the steps involved in the sliding filament of muscle contraction. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.19</u> :	Explain the physiology of skeletal muscle. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.20</u> :	Identify the major muscles of the human on a model or diagram. Cognitive Complexity: Level 1: Recall Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms Remarks/Examples Refer to MACC.K12.MP.4: Model with mathematics.
<u>SC.912.L.14.24</u> :	Identify the general parts of a synapse and describe the physiology of signal transmission across a synapse. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.36</u> :	Describe the factors affecting blood flow through the cardiovascular system. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date

	Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms
<u>SC.912.L.14.44 :</u>	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts Date Adopted or Revised: 02/08 Belongs to: Organization and Development of Living Organisms

Course: Fitness Lifestyle Design- 1501310

BASIC INFORMATION

Course Title:	Fitness Lifestyle Design
Course Number:	1501310
Course Abbreviated Title:	FIT LIFST DESIGN
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending

STANDARDS (30)

LACC.1112.RST.2 Craft and Structure	
LACC.1112.RST.2.4 :	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning Date Adopted or Revised: 12/10 Belongs to: Craft and Structure
LACC.910.L.3 Vocabulary Acquisition and Use	
LACC.910.L.3.4 :	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i> , choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase.

- b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*).
- c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.
- d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10
 Belongs to: [Vocabulary Acquisition and Use](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[MACC.912.S-MD.2 Use probability to evaluate outcomes of decisions](#)

[MACC.912.S-MD.2.7 :](#)

Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10

Belongs to: [Use probability to evaluate outcomes of decisions](#)

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of](#)

physical activities.

PE.912.C.2.10 :

Analyze long-term benefits of regularly participating in physical activity.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.13 :

Document food intake, calories consumed and energy expended through physical activity and analyze the results.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.24 :

Analyze the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.C.2.25 :

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.27 :

Compare and contrast how movement skills from one physical

	<p>activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <p>Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.L.3 Participate regularly in physical activity.</u></p>	
<p><u>PE.912.L.3.1 :</u></p>	<p>Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.L.3.3 :</u></p>	<p>Identify a variety of activities that promote effective stress management. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.L.3.4 :</u></p>	<p>Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.L.3.5 :</u></p>	<p>Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.L.3.6 :</u></p>	<p>Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.</p>
<p><u>PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a</u></p>	

health-enhancing level of physical fitness.

PE.912.L.4.7 :

Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.13 :

Perform a student-designed cardiorespiratory enhancing workout.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.14 :

Utilize technology to assess, enhance and maintain health and skill-related fitness levels.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.

PE.912.M.1.15 :

Select and apply sport/activity specific warm-up and cool-down techniques.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.16 :

Apply the principles of training and conditioning to accommodate individual needs and strengths.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples of training principles are overload, specificity and progression.

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

	<p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.M.1.35</u> :</p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.5</u> :</p>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>

[PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

<p><u>PE.912.R.5.2</u> :</p>	<p>Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.5.4</u> :</p>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5</u> :</p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>

[PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

PE.912.R.6.2 :

Analyze physical activities from which benefits can be derived.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Remarks/Examples

Some examples of potential benefits are physical, mental, emotional and social.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Paddleball/Racquetball/Handball-1502400

BASIC INFORMATION

Course Title:	Paddleball/Racquetball/Handball
Course Number:	1502400
Course Abbreviated Title:	PADB RACQB HANDBALL
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending

STANDARDS (26)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.27 :</u></p>	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<p><u>PE.912.C.2.28 :</u></p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

[performance in a variety of physical activities.](#)

[PE.912.L.3 Participate regularly in physical activity.](#)

[PE.912.L.3.4 :](#)

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.L.3.5 :](#)

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.L.3.6 :](#)

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.10 :](#)

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

[PE.912.M.1.15 :](#)

Select and apply sport/activity specific warm-up and cool-down techniques.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.22 :](#)

Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.23 :](#)

Demonstrate proficiency of critical elements when striking with objects, implements or body parts.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

	Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.24 :	Apply a combination of complex movement patterns in a game setting. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.25 :	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.26 :	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example is placing a shot in an open area away from opponent.
PE.912.M.1.30 :	Combine and apply movement patterns from simple to complex. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.31 :	Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.32 :	Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
PE.912.M.1.34 :	Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

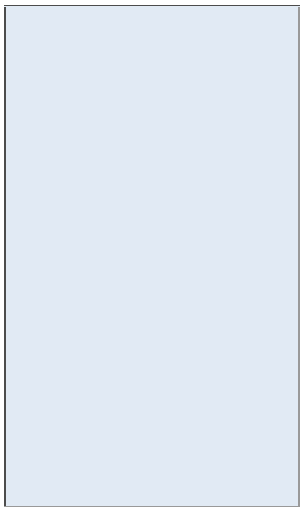
Course: Outdoor Education- 1502480

BASIC INFORMATION

Course Title:	Outdoor Education
Course Number:	1502480
Course Abbreviated Title:	OUTDOOR ED
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: General
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending

STANDARDS (18)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader

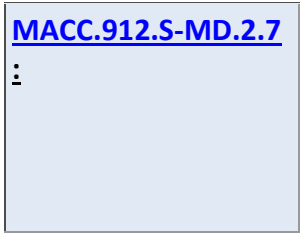


themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-MD.2 Use probability to evaluate outcomes of decisions](#)



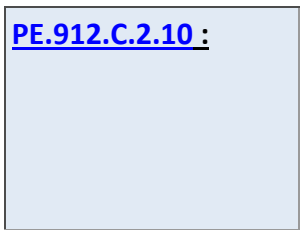
[MACC.912.S-MD.2.7](#)

:

Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Use probability to evaluate outcomes of decisions](#)

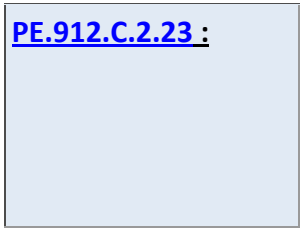
[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.10](#)

Analyze long-term benefits of regularly participating in physical activity.

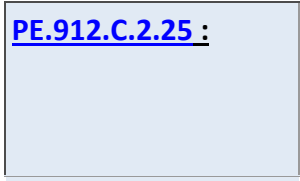
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.23](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)



[PE.912.C.2.25](#)

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
 Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.11 :

Demonstrate competency in two or more extreme sports activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.27 :

Demonstrate proficiency in a variety of outdoor pursuit activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.28 :

Apply strategies and tactics in a variety of outdoor pursuits.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.33 :

Practice complex motor activities in order to improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few,](#)

	<p>movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<p>PE.912.M.1.35 :</p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>	
<p>PE.912.R.5.1 :</p>	<p>Describe ways to act independently of peer pressure during physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p>PE.912.R.5.5 :</p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>	
<p>PE.912.R.6.1 :</p>	<p>Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<p>PE.912.R.6.3 :</p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Individual and Dual Sports 3- 1502430

BASIC INFORMATION

Course Title:	Individual and Dual Sports 3
Course Number:	1502430
Course Abbreviated Title:	INDIV/DUAL SPRTS 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (30)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20 :](#)

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.27 :</u></p>	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<p><u>PE.912.C.2.28 :</u></p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

	performance in a variety of physical activities.
<u>PE.912.C.2.7 :</u>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<u>PE.912.C.2.9 :</u>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
<u>PE.912.L.3 Participate regularly in physical activity.</u>	
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u>	
<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE 912 M 1 20 :</u>	Perform complex combinations and sequences demonstrating

	<p>smooth transitions while alone, with a partner or in a small group. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.22 :	<p>Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.23 :	<p>Demonstrate proficiency of critical elements when striking with objects, implements or body parts. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.24 :	<p>Apply a combination of complex movement patterns in a game setting. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.25 :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.26 :	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is placing a shot in an open area away from opponent.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few,</p>

	movement forms from a variety of categories.
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u>	
<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<u>PE.912.R.5.5 :</u>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or</u>	

social interaction.

PE.912.R.6.1 :

Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Individual and Dual Sports 2- 1502420

BASIC INFORMATION

Course Title:	Individual and Dual Sports 2
Course Number:	1502420
Course Abbreviated Title:	INDIV/DUAL SPRTS 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (31)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20 :](#)

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.22 :](#)

Explain the skill-related components of fitness and how they enhance performance levels.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

	<p>The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.</p>
<p><u>PE.912.C.2.23</u> :</p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.25</u> :</p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26</u> :</p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.27</u> :</p>	<p>Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples are volleyball and tennis serve, surfing and skate boarding.</p>
<p><u>PE.912.C.2.28</u> :</p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.9</u> :</p>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical</p>

	<p>principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>
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[PE.912.L.3 Participate regularly in physical activity.](#)

<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>

[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

<u>PE.912.M.1.10 :</u>	<p>Apply sport specific skills in simulation and in real-life applications.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.</p>
<u>PE.912.M.1.19 :</u>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.22 :</u>	<p>Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<u>PE.912.M.1.23 :</u>	<p>Demonstrate proficiency of critical elements when striking with</p>

	<p>objects, implements or body parts.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.24 :	<p>Apply a combination of complex movement patterns in a game setting.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.25 :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.26 :	<p>Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is placing a shot in an open area away from opponent.</p>
PE.912.M.1.30 :	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.D.5.1 :

Demonstrate appropriate etiquette, care of equipment, respect for

	<p>facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.1 :</u></p>	<p>Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Weight Training 2- 1501350

BASIC INFORMATION

Course Title:	Weight Training 2
Course Number:	1501350
Course Abbreviated Title:	WEIGHT TRAIN 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (26)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

PE.912.C.2.16 :

Explain the methods of monitoring levels of intensity during aerobic activity.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.

PE.912.C.2.17 :

Assess physiological effects of exercise during and after physical

	<p>activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are breathing, resting heart rate and blood pressure.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.2 :</u>	<p>Participate in a variety of activities that promote the health-related components of fitness.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p> <p>Remarks/Examples</p> <p>The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.</p>
<u>PE.912.L.3.3 :</u>	<p>Identify a variety of activities that promote effective stress management.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>
<u>PE.912.L.3.6 :</u>	<p>Identify risks and safety factors that may affect physical activity throughout life.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Participate regularly in physical activity.</p>

PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

<u>PE.912.L.4.2 :</u>	<p>Identify ways to self-assess and modify a personal fitness program.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<u>PE.912.L.4.4 :</u>	<p>Use available technology to assess, design and evaluate a personal fitness program.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p>
<u>PE.912.L.4.5 :</u>	<p>Apply the principles of training to personal fitness goals.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and progression.</p>

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms

from a variety of categories.

PE.912.M.1.12 :

Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example is performing plyometrics.

PE.912.M.1.16 :

Apply the principles of training and conditioning to accommodate individual needs and strengths.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples of training principles are overload, specificity and progression.

PE.912.M.1.19 :

Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.30 :

Combine and apply movement patterns from simple to complex.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.33 :

Practice complex motor activities in order to improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.2 :

Analyze physical activities from which benefits can be derived.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Remarks/Examples

Some examples of potential benefits are physical, mental, emotional and social.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Weight Training 1- 1501340

BASIC INFORMATION

Course Title:	Weight Training 1
Course Number:	1501340
Course Abbreviated Title:	WEIGHT TRAIN 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Fitness
Number of Credits:	Half credit (.5)
Course length:	Semester (S)
Course Level:	2
Status:	Draft - Board Approval Pending
Version Description:	The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement as it relates to weight training. The integration of fitness concepts throughout the content is critical to the success of this course.

STANDARDS (26)

LACC.910.SL.1 Comprehension and Collaboration	
LACC.910.SL.1.1 :	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.</p> <ol style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on

key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[LACC.910.WHST.2 Production and Distribution of Writing](#)

[LACC.910.WHST.2.6 :](#)

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10
Belongs to: [Production and Distribution of Writing](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

<p><u>PE.912.C.2.16 :</u></p>	<p>Explain the methods of monitoring levels of intensity during aerobic activity. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.</p>
<p><u>PE.912.C.2.23 :</u></p>	<p>Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.3 :</u></p>	<p>Analyze the movement performance of self and others. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are video analysis and checklist.</p>

PE.912.C.2.6 :

Compare and contrast the health-related benefits of various physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.2 :

Participate in a variety of activities that promote the health-related components of fitness.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

Remarks/Examples

The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.6 :

Identify risks and safety factors that may affect physical activity throughout life.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.4 Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.

PE.912.L.4.2 :

Identify ways to self-assess and modify a personal fitness program.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.L.4.4 :

Use available technology to assess, design and evaluate a personal fitness program.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and maintain a health-enhancing level of physical fitness.](#)

PE.912.L.4.5 :

Apply the principles of training to personal fitness goals.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Develop and implement a personal fitness program to achieve and](#)

	<p>maintain a health-enhancing level of physical fitness.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>	
<p><u>PE.912.M.1.12 :</u></p>	<p>Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>An example is performing plyometrics.</p>
<p><u>PE.912.M.1.15 :</u></p>	<p>Select and apply sport/activity specific warm-up and cool-down techniques.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.16 :</u></p>	<p>Apply the principles of training and conditioning to accommodate individual needs and strengths.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <p>Some examples of training principles are overload, specificity and progression.</p>
<p><u>PE.912.M.1.19 :</u></p>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.30 :</u></p>	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.2 :

Analyze physical activities from which benefits can be derived.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

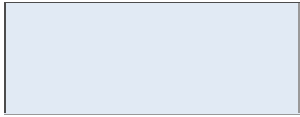
Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Remarks/Examples

Some examples of potential benefits are physical, mental, emotional and social.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.



Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

Course: Water Safety- 1504490

BASIC INFORMATION

Course Title:	Water Safety
Course Number:	1504490
Course Abbreviated Title:	WATER SAFETY
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (25)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.20 :](#)

Identify appropriate methods to resolve physical conflict.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.24 :](#)

Analyze the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

	<p>Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.7 :</u></p>	<p>Evaluate the effectiveness of specific warm-up and cool-down activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.8 :</u></p>	<p>Differentiate between the three different types of heat illnesses associated with fluid loss. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.</p>
<p><u>PE.912.C.2.9 :</u></p>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p> <p>Remarks/Examples</p> <p>Some examples of precautions are hydration and appropriate attire.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.3 :</u>	Identify a variety of activities that promote effective stress management. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.4 :</u>	Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.5 :</u>	Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.6 :</u>	Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

<u>PE.912.M.1.1 :</u>	Demonstrate critical elements of basic skills relating to aquatics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.
<u>PE.912.M.1.17 :</u>	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.2 :</u>	Demonstrate proficiency in combination of motor skills related to aquatics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples

	<p>Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.</p>
<p><u>PE.912.M.1.3 :</u></p>	<p>Perform a basic water rescue, with or without equipment, without entering the water. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.33 :</u></p>	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.34 :</u></p>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.M.1.35 :</u></p>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
<p><u>PE.912.M.1.4 :</u></p>	<p>Perform refinement of one or more swim strokes to enhance efficiency, power and cardiorespiratory endurance in a variety of aquatic settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples of aquatic settings are a pool, a lake and open water.</p>
<p><u>PE.912.M.1.5 :</u></p>	<p>Apply strategies for self improvement based on individual strengths and needs. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few,</p>

movement forms from a variety of categories.

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.1 :

Describe ways to act independently of peer pressure during physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Course: Volleyball 3- 1505520

BASIC INFORMATION

Course Title:	Volleyball 3
Course Number:	1505520
Course Abbreviated Title:	VOLLEYBALL 3
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (25)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.21 :](#)

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<u>PE.912.C.2.25 :</u>	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.26 :</u>	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.28 :</u>	Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.9 :</u>	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.3 :</u>	Identify a variety of activities that promote effective stress management. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.4 :</u>	Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.5 :</u>	Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.10 :](#)

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

[PE.912.M.1.23 :](#)

Demonstrate proficiency of critical elements when striking with objects, implements or body parts.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.25 :](#)

Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.26 :](#)

Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example is placing a shot in an open area away from opponent.

[PE.912.M.1.30 :](#)

Combine and apply movement patterns from simple to complex.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.32 :](#)

Apply sport specific skills in a variety of game settings.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.33 :

Practice complex motor activities in order to improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.34 :

Demonstrate use of the mechanical principles as they apply to specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

Some examples are balance, force and leverage.

PE.912.M.1.35 :

Select proper equipment and apply all appropriate safety procedures necessary for participation.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.M.1.5 :

Apply strategies for self improvement based on individual strengths and needs.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

Remarks/Examples

	<p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Volleyball 2- 1505510

BASIC INFORMATION

Course Title:	Volleyball 2
Course Number:	1505510
Course Abbreviated Title:	VOLLEYBALL 2
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (25)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

PE.912.C.2.21 :

Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

<u>PE.912.C.2.25 :</u>	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.26 :</u>	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.28 :</u>	Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.
<u>PE.912.C.2.9 :</u>	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples of precautions are hydration and appropriate attire.

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.3 :</u>	Identify a variety of activities that promote effective stress management. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.4 :</u>	Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.5 :</u>	Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

[PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.10 :](#)

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

[PE.912.M.1.25 :](#)

Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.26 :](#)

Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example is placing a shot in an open area away from opponent.

[PE.912.M.1.30 :](#)

Combine and apply movement patterns from simple to complex.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.31 :](#)

Demonstrate advanced offensive, defensive and transition strategies and tactics.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

[PE.912.M.1.32 :](#)

Apply sport specific skills in a variety of game settings.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

<u>PE.912.M.1.33 :</u>	<p>Practice complex motor activities in order to improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.34 :</u>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<p><u>PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p>	
<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</u></p> <p>Remarks/Examples</p>

	<p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
<p><u>PE.912.R.5.5 :</u></p>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
<p><u>PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</u></p>	
<p><u>PE.912.R.6.3 :</u></p>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>

Course: Volleyball 1- 1505500

BASIC INFORMATION

Course Title:	Volleyball 1
Course Number:	1505500
Course Abbreviated Title:	VOLLEYBALL 1
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Team
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (23)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
Belongs to: [Comprehension and Collaboration](#)

[MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable](#)

[MACC.912.S-ID.1.2 :](#)

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

[PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.23 :](#)

Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

[PE.912.C.2.25 :](#)

Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.26 :

Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.C.2.28 :

Interpret and apply the rules associated with specific course activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

PE.912.L.3 Participate regularly in physical activity.

PE.912.L.3.3 :

Identify a variety of activities that promote effective stress management.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.4 :

Identify the in-school opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.L.3.5 :

Identify the community opportunities for participation in a variety of physical activities.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Participate regularly in physical activity.](#)

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

PE.912.M.1.10 :

Apply sport specific skills in simulation and in real-life applications.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.](#)

Remarks/Examples

An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.

PE.912.M.1.15 :

Select and apply sport/activity specific warm-up and cool-down techniques.

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.25 :	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.30 :	<p>Combine and apply movement patterns from simple to complex. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.31 :	<p>Demonstrate advanced offensive, defensive and transition strategies and tactics. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.32 :	<p>Apply sport specific skills in a variety of game settings. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.33 :	<p>Practice complex motor activities in order to improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.34 :	<p>Demonstrate use of the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p> <p>Remarks/Examples</p> <hr/> <p>Some examples are balance, force and leverage.</p> <hr/>
PE.912.M.1.35 :	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
PE.912.M.1.5 :	<p>Apply strategies for self improvement based on individual strengths and needs.</p>

	<p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</p>
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[PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

<u>PE.912.R.5.3 :</u>	<p>Demonstrate sportsmanship during game situations.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.4 :</u>	<p>Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p> <p>Remarks/Examples</p> <p>Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.</p>
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<u>PE.912.R.5.5 :</u>	<p>Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.</p>
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[PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

<u>PE.912.R.6.3 :</u>	<p>Analyze the roles of games, sports and/or physical activities in other cultures.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.</p>
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Course: Track and Field- 1503300

BASIC INFORMATION

Course Title:	Track and Field
Course Number:	1503300
Course Abbreviated Title:	TRACK & FIELD
Course Path:	Section: Grades PreK to 12 Education Courses Grade Group: Grades 9 to 12 and Adult Education Courses Subject: Physical Education SubSubject: Individual and Dual
Course length:	Semester (S)
Status:	Draft - Board Approval Pending

STANDARDS (28)

<u>LACC.910.SL.1 Comprehension and Collaboration</u>	
<u>LACC.910.SL.1.1 :</u>	<p>Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none">a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning | Date Adopted or Revised: 12/10
 Belongs to: [Comprehension and Collaboration](#)

MACC.912.S-ID.1 Summarize, represent, and interpret data on a single count or measurement variable

MACC.912.S-ID.1.2 :

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts | Date Adopted or Revised: 12/10

Belongs to: [Summarize, represent, and interpret data on a single count or measurement variable](#)

Remarks/Examples

In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

PE.912.C.2 Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.

PE.912.C.2.22 :

Explain the skill-related components of fitness and how they enhance performance levels.

Cognitive Complexity: N/A | Date Adopted or Revised: 04/13

Belongs to: [Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.](#)

Remarks/Examples

The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.

PE.912.C.2.23 :

Apply appropriate technology and analyze data to evaluate,

	<p>monitor and/or improve performance. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.24 :</u></p>	<p>Analyze the mechanical principles as they apply to specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples are balance, force and leverage.</p>
<p><u>PE.912.C.2.25 :</u></p>	<p>Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.26 :</u></p>	<p>Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.28 :</u></p>	<p>Interpret and apply the rules associated with specific course activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities.</p>
<p><u>PE.912.C.2.9 :</u></p>	<p>Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Identify, analyze and evaluate movement concepts, mechanical principles, safety considerations and strategies/tactics regarding movement performance in a variety of physical activities. Remarks/Examples Some examples of precautions are hydration and appropriate attire.</p>

PE.912.L.3 Participate regularly in physical activity.

<u>PE.912.L.3.4 :</u>	Identify the in-school opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.5 :</u>	Identify the community opportunities for participation in a variety of physical activities. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.
<u>PE.912.L.3.6 :</u>	Identify risks and safety factors that may affect physical activity throughout life. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Participate regularly in physical activity.

PE.912.M.1 Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.

<u>PE.912.M.1.10 :</u>	Apply sport specific skills in simulation and in real-life applications. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
<u>PE.912.M.1.15 :</u>	Select and apply sport/activity specific warm-up and cool-down techniques. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.
<u>PE.912.M.1.16 :</u>	Apply the principles of training and conditioning to accommodate individual needs and strengths. Cognitive Complexity: N/A Date Adopted or Revised: 04/13 Belongs to: Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories. Remarks/Examples Some examples of training principles are overload, specificity and progression.

<u>PE.912.M.1.19 :</u>	<p>Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.25 :</u>	<p>Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.30 :</u>	<p>Combine and apply movement patterns from simple to complex.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.32 :</u>	<p>Apply sport specific skills in a variety of game settings.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.33 :</u>	<p>Practice complex motor activities in order to improve performance.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.34 :</u>	<p>Demonstrate use of the mechanical principles as they apply to specific course activities.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p> <p>Remarks/Examples</p> <p>Some examples are balance, force and leverage.</p>
<u>PE.912.M.1.35 :</u>	<p>Select proper equipment and apply all appropriate safety procedures necessary for participation.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>
<u>PE.912.M.1.5 :</u>	<p>Apply strategies for self improvement based on individual strengths and needs.</p> <p>Cognitive Complexity: N/A Date Adopted or Revised: 04/13</p> <p>Belongs to: <u>Demonstrate competency in many, and proficiency in a few, movement forms from a variety of categories.</u></p>

PE.912.R.5 Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.

PE.912.R.5.2 :

Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.5.3 :

Demonstrate sportsmanship during game situations.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)
Remarks/Examples

Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.

PE.912.R.5.4 :

Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)
Remarks/Examples

Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.

PE.912.R.5.5 :

Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Exhibit responsible personal and social behavior that respects self and others in physical-activity settings.](#)

PE.912.R.6 Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

PE.912.R.6.3 :

Analyze the roles of games, sports and/or physical activities in other cultures.
Cognitive Complexity: N/A | Date Adopted or Revised: 04/13
Belongs to: [Value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.](#)

