Grade Kindergarten Mathematics (#5012020) 2022 - And Beyond

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Course Standards

Name	Description
MA.K.AR.1.1:	For any number from 1 to 9, find the number that makes 10 when added to the given number. **Clarifications:** *Clarification 1:* Instruction includes creating a ten using manipulatives, number lines, models and drawings.
MA.K.AR.1.2:	Given a number from 0 to 10, find the different ways it can be represented as the sum of two numbers. **Clarifications:** *Clarification 1:* Instruction includes the exploration of finding possible pairs to make a sum using manipulatives, objects, drawings and expressions; and understanding how the different representations are related to each other.
MA.K.AR.1.3:	Solve addition and subtraction real-world problems using objects, drawings or equations to represent the problem. **Clarifications:** *Clarification 1:* Instruction includes understanding the context of the problem, as well as the quantities within the problem. *Clarification 2:* Students are not expected to independently read word problems. *Clarification 3:* Addition and subtraction are limited to sums within 10 and related subtraction facts. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.K.AR.2.1:	Explain why addition or subtraction equations are true using objects or drawings. **Clarifications:** *Clarification 1:* Instruction focuses on the understanding of the equal sign. *Clarification 2:* Problem types are limited to an equation with two or three terms. The sum or difference can be on either side of the equal sign. *Clarification 3:* Addition and subtraction are limited to sums within 20 and related subtraction facts.
MA.K.DP.1.1:	Collect and sort objects into categories and compare the categories by counting the objects in each category. Report the results verbally, with a written numeral or with drawings. **Clarifications:** *Clarification 1:* Instruction focuses on supporting work in counting. *Clarification 2:* Instruction includes geometric figures that can be categorized using their defining attributes. *Clarification 3:* Within this benchmark, it is not the expectation for students to construct formal representations or graphs on their own.
MA.K.GR.1.1:	Identify two- and three-dimensional figures regardless of their size or orientation. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders. **Clarifications:** *Clarification 1:* Instruction includes a wide variety of circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders. *Clarification 2:* Instruction includes a variety of non-examples that lack one or more defining attributes. *Clarification 3:* Two-dimensional figures can be either filled, outlined or both.
MA.K.GR.1.2:	Compare two-dimensional figures based on their similarities, differences and positions. Sort two-dimensional figures based on their similarities and differences. Figures are limited to circles, triangles, rectangles and squares. **Clarifications:** *Clarification 1:* Instruction includes exploring figures in a variety of sizes and orientations. *Clarification 2:* Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting.
MA.K.GR.1.3:	Compare three-dimensional figures based on their similarities, differences and positions. Sort three-dimensional figures based on their similarities and differences. Figures are limited to spheres, cubes, cones and cylinders. **Clarifications:** *Clarification 1:* Instruction includes exploring figures in a variety of sizes and orientations. *Clarification 2:* Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting.
MA.K.GR.1.4:	Find real-world objects that can be modeled by a given two- or three-dimensional figure. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders.
MA.K.GR.1.5:	Combine two-dimensional figures to form a given composite figure. Figures used to form a composite shape are limited to triangles, rectangles and squares. **Clarifications:** *Clarification 1:* This benchmark is intended to develop the understanding of spatial relationships.
	Identify the attributes of a single object that can be measured such as length, volume or weight.

MA.K.M.1.1:	**Clarifications:** *Clarification 1:* Within this benchmark, measuring is not required.
MA.K.M.1.2:	Directly compare two objects that have an attribute which can be measured in common. Express the comparison using language to describe the difference. **Clarifications:** *Clarification 1:* To directly compare length, objects are placed next to each other with one end of each object lined up to determine which one is longer. *Clarification 2:* Language to compare length includes short, shorter, long, longer, tall, taller, high or higher. Language to compare volume includes has more, has less, holds more, holds less, more full, less full, full, empty, takes up more space or takes up less space. Language to compare weight includes heavy, heavier, light, lighter, weighs more or weighs less.
MA.K.M.1.3:	Express the length of an object, up to 20 units long, as a whole number of lengths by laying non-standard objects end to end with no gaps or overlaps. **Clarifications:** *Clarification 1:* Non-standard units of measurement are units that are not typically used, such as paper clips or colored tiles. To measure with non-standard units, students lay multiple copies of the same object end to end with no gaps or overlaps. The length is shown by the number of objects needed.
MA.K.NSO.1.1:	Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting. **Clarifications:** *Clarification 1:* Instruction focuses on developing an understanding of cardinality and one-to-one correspondence. *Clarification 2:* Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10. *Clarification 3:* Within this benchmark, the expectation is not to write the number in word form.
MA.K.NSO.1.2:	Given a number from 0 to 20, count out that many objects. **Clarifications:** *Clarification 1:* Instruction includes giving a number verbally or with a written numeral.
MA.K.NSO.1.3:	Identify positions of objects within a sequence using the words "first," "second," "third," "fourth" or "fifth." **Clarifications:** *Clarification 1:* Instruction includes the understanding that rearranging a group of objects does not change the total number of objects but may change the order of an object in that group.
MA.K.NSO.1.4:	Compare the number of objects from 0 to 20 in two groups using the terms less than, equal to or greater than. **Clarifications:** *Clarification 1:* Instruction focuses on matching, counting and the connection to addition and subtraction. *Clarification 2:* Within this benchmark, the expectation is not to use the relational symbols =,> or <.
MA.K.NSO.2.1:	Recite the number names to 100 by ones and by tens. Starting at a given number, count forward within 100 and backward within 20. **Clarifications:** *Clarification 1:* When counting forward by ones, students are to say the number names in the standard order and understand that each successive number refers to a quantity that is one larger. When counting backward, students are to understand that each succeeding number in the count sequence refers to a quantity that is one less. *Clarification 2:* Within this benchmark, the expectation is to recognize and count to 100 by the end of Kindergarten.
MA.K.NSO.2.2:	Represent whole numbers from 10 to 20, using a unit of ten and a group of ones, with objects, drawings and expressions or equations.
MA.K.NSO.2.3:	Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to use the relational symbols =,> or <. *Clarification 2:* When comparing numbers from 0 to 20, both numbers are plotted on the same number line. *Clarification 3:* When locating numbers on the number line, the expectation includes filling in a missing number by counting from left to right on the number line.
MA.K.NSO.3.1:	Explore addition of two whole numbers from 0 to 10, and related subtraction facts. **Clarifications:** *Clarification 1:* Instruction includes objects, fingers, drawings, number lines and equations. *Clarification 2:* Instruction focuses on the connection that addition is "putting together" or "counting on" and that subtraction is "taking apart" or "taking from." Refer to Situations Involving Operations with Numbers (Appendix A). *Clarification 3:* Within this benchmark, it is the expectation that one problem can be represented in multiple ways and understanding how the different representations are related to each other.
MA.K.NSO.3.2:	Add two one-digit whole numbers with sums from 0 to 10 and subtract using related facts with procedural reliability. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others:

- Cultivate a community of growth mindset learners.
- Foster perseverance in students by choosing tasks that are challenging.
- Develop students' ability to analyze and problem solve.
- Recognize students' effort when solving challenging problems.

Demonstrate understanding by representing problems in multiple ways.
Mathematicians who demonstrate understanding by representing problems in multiple ways:

- Build understanding through modeling and using manipulatives.
- Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
- Progress from modeling problems with objects and drawings to using algorithms and equations.
- Express connections between concepts and representations.

MA.K12.MTR.2.1:

- Choose a representation based on the given context or purpose.

Clarifications:
Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

- Help students make connections between concepts and representations.
- Provide opportunities for students to use manipulatives when investigating concepts.
- Guide students from concrete to pictorial to abstract representations as understanding progresses.
- Show students that various representations can have different purposes and can be useful in different situations.

Complete tasks with mathematical fluency.
Mathematicians who complete tasks with mathematical fluency:

- Select efficient and appropriate methods for solving problems within the given context.
- Maintain flexibility and accuracy while performing procedures and mental calculations.
- Complete tasks accurately and with confidence.
- Adapt procedures to apply them to a new context.

MA.K12.MTR.3.1:

- Use feedback to improve efficiency when performing calculations.

Clarifications:
Teachers who encourage students to complete tasks with mathematical fluency:

- Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
- Offer multiple opportunities for students to practice efficient and generalizable methods.
- Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.

Engage in discussions that reflect on the mathematical thinking of self and others.
Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:

- Communicate mathematical ideas, vocabulary and methods effectively.
- Analyze the mathematical thinking of others.
- Compare the efficiency of a method to those expressed by others.
- Recognize errors and suggest how to correctly solve the task.
- Justify results by explaining methods and processes.

MA.K12.MTR.4.1:

- Construct possible arguments based on evidence.

Clarifications:
Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:

- Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
- Create opportunities for students to discuss their thinking with peers.
- Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
- Develop students' ability to justify methods and compare their responses to the responses of their peers.

Use patterns and structure to help understand and connect mathematical concepts.
Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

- Focus on relevant details within a problem.
- Create plans and procedures to logically order events, steps or ideas to solve problems.
- Decompose a complex problem into manageable parts.
- Relate previously learned concepts to new concepts.
- Look for similarities among problems.

MA.K12.MTR.5.1:

- Connect solutions of problems to more complicated large-scale situations.

Clarifications:
Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts:

- Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts.
- Support students to develop generalizations based on the similarities found among problems.
- Provide opportunities for students to create plans and procedures to solve problems.
- Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.

Assess the reasonableness of solutions.
Mathematicians who assess the reasonableness of solutions:

- Estimate to discover possible solutions.
- Use benchmark quantities to determine if a solution makes sense.
- Check calculations when solving problems.
- Verify possible solutions by explaining the methods used.

MA.K12.MTR.6.1:

- Evaluate results based on the given context.

Clarifications:

	Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency. **Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The benchmarks in this course are mastery goals that students are expected to attain by the end of the year. To build mastery, students will continue to review and apply earlier grade-level benchmarks and expectations.

GENERAL NOTES

In Kindergarten, instructional time will emphasize three areas: (1) developing an understanding of counting to represent the total number of objects in a set and to order the objects within a set; (2) developing an understanding of addition and subtraction and the relationship of these operations to counting and (3) measuring, comparing and categorizing objects according to various attributes, including their two- and three-dimensional shapes.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

GENERAL INFORMATION

Course Number: 5012020

Course Type: Core Academic Course

Course Status: Data entry status - hidden

Grade Level(s): K

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: GRADE K MATH

Course Length: Year (Y)

Course Level: 2

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)

Primary Education (K-3)
Early Childhood Education (Early Childhood)
Elementary Education (Grades K-6)

There are more than 6 related instructional/educational resources available for this on CPALMS. Click on the following link to access them: https://www.cpalms.org?title=2022%20-%20And%20Beyond&isShowCurrent=false/Public/PreviewCourse/Preview/17775

Grade One Mathematics (#5012030) 2022 - And Beyond

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Course Standards

Name	Description
MA.1.AR.1.1:	Apply properties of addition to find a sum of three or more whole numbers. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is to apply the associative and commutative properties of addition. It is not the expectation to name the properties or use parentheses. Refer to Properties of Operations, Equality and Inequality (Appendix D). *Clarification 2:* Instruction includes emphasis on using the properties to make a ten when adding three or more numbers. *Clarification 3:* Addition is limited to sums within 20.
MA.1.AR.1.2:	Solve addition and subtraction real-world problems using objects, drawings or equations to represent the problem. **Clarifications:** *Clarification 1:* Instruction includes understanding the context of the problem, as well as the quantities within the problem. *Clarification 2:* Students are not expected to independently read word problems. *Clarification 3:* Addition and subtraction are limited to sums within 20 and related subtraction facts. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.1.AR.2.1:	Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction. **Clarifications:** *Clarification 1:* Addition and subtraction are limited to sums within 20 and related subtraction facts.
MA.1.AR.2.2:	Determine and explain if equations involving addition or subtraction are true or false. **Clarifications:** *Clarification 1:* Instruction focuses on understanding of the equal sign. *Clarification 2:* Problem types are limited to an equation with no more than four terms. The sum or difference can be on either side of the equal sign. *Clarification 3:* Addition and subtraction are limited to sums within 20 and related subtraction facts.
MA.1.AR.2.3:	Determine the unknown whole number in an addition or subtraction equation, relating three whole numbers, with the unknown in any position. **Clarifications:** *Clarification 1:* Instruction begins the development of algebraic thinking skills where the symbolic representation of the unknown uses any symbol other than a letter. *Clarification 2:* Problems include the unknown on either side of the equal sign. *Clarification 3:* Addition and subtraction are limited to sums within 20 and related subtraction facts. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.1.DP.1.1:	Collect data into categories and represent the results using tally marks or pictographs. **Clarifications:** *Clarification 1:* Instruction includes connecting tally marks to counting by 5s. *Clarification 2:* Data sets include geometric figures that are categorized using their defining attributes and data from the classroom or school. *Clarification 3:* Pictographs are limited to single-unit scales.
MA.1.DP.1.2:	Interpret data represented with tally marks or pictographs by calculating the total number of data points and comparing the totals of different categories. **Clarifications:** *Clarification 1:* Instruction focuses on the connection to addition and subtraction when calculating the total and comparing, respectively.
MA.1.FR.1.1:	Partition circles and rectangles into two and four equal-sized parts. Name the parts of the whole using appropriate language including halves or fourths. **Clarifications:** *Clarification 1:* This benchmark does not require writing the equal sized parts as a fraction with a numerator and denominator.
MA.1.GR.1.1:	Identify, compare and sort two- and three-dimensional figures based on their defining attributes. Figures are limited to circles, semi-circles, triangles, rectangles, squares, trapezoids, hexagons, spheres, cubes, rectangular prisms, cones and cylinders. **Clarifications:** *Clarification 1:* Instruction focuses on the defining attributes of a figure: whether it is closed or not; number of vertices, sides, edges or faces; and if it contains straight, curved or equal length sides or edges. *Clarification 2:* Instruction includes figures given in a variety of sizes, orientations and non-examples that lack one or more defining attributes. *Clarification 3:* Within this benchmark, the expectation is not to sort a combination of two- and three-dimensional figures at the same time or to define the attributes of trapezoids. *Clarification 4:* Instruction includes using formal and informal language to describe the defining attributes of figures when comparing and sorting.

MA.1.GR.1.2:	Sketch two-dimensional figures when given defining attributes. Figures are limited to triangles, rectangles, squares and hexagons.
MA.1.GR.1.3:	Compose and decompose two- and three-dimensional figures. Figures are limited to semi-circles, triangles, rectangles, squares, trapezoids, hexagons, cubes, rectangular prisms, cones and cylinders. **Clarifications:** *Clarification 1:* Instruction focuses on the understanding of spatial relationships relating to part-whole, and on the connection to breaking apart numbers and putting them back together. *Clarification 2:* Composite figures are composed without gaps or overlaps. *Clarification 3:* Within this benchmark, it is not the expectation to compose two- and three- dimensional figures at the same time.
MA.1.GR.1.4:	Given a real-world object, identify parts that are modeled by two- and three-dimensional figures. Figures are limited to semi-circles, triangles, rectangles, squares and hexagons, spheres, cubes, rectangular prisms, cones and cylinders.
MA.1.M.1.1:	Estimate the length of an object to the nearest inch. Measure the length of an object to the nearest inch or centimeter. **Clarifications:** *Clarification 1:* Instruction emphasizes measuring from the zero point of the ruler. The markings on the ruler indicate the unit of length by marking equal distances with no gaps or overlaps. *Clarification 2:* When estimating length, the expectation is to give a reasonable number of inches for the length of a given object.
MA.1.M.1.2:	Compare and order the length of up to three objects using direct and indirect comparison. **Clarifications:** *Clarification 1:* When directly comparing objects, the objects can be placed side by side or they can be separately measured in the same units and the measurements can be compared. *Clarification 2:* Two objects can be compared indirectly by directly comparing them to a third object.
MA.1.M.2.1:	Using analog and digital clocks, tell and write time in hours and half-hours. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to understand military time or to use a.m. or p.m. *Clarification 2:* Instruction includes the connection to partitioning circles into halves and to semi-circles.
MA.1.M.2.2:	Identify pennies, nickels, dimes and quarters, and express their values using the ¢ symbol. State how many of each coin equal a dollar. **Clarifications:** *Clarification 1:* Instruction includes the recognition of both sides of a coin. *Clarification 2:* Within this benchmark, the expectation is not to use decimal values.
MA.1.M.2.3:	Find the value of combinations of pennies, nickels and dimes up to one dollar, and the value of combinations of one, five and ten dollar bills up to $100. Use the ¢ and $ symbols appropriately. **Clarifications:** *Clarification 1:* Instruction includes the identification of a one, five and ten-dollar bill and the computation of the value of combinations of pennies, nickels and dimes or one, five and ten dollar bills. *Clarification 2:* Instruction focuses on the connection to place value and skip counting. *Clarification 3:* Within this benchmark, the expectation is not to use decimal values or to find the value of a combination of coins and dollars.
MA.1.NSO.1.1:	Starting at a given number, count forward and backwards within 120 by ones. Skip count by 2s to 20 and by 5s to 100. **Clarifications:** *Clarification 1:* Instruction focuses on the connection to addition as "counting on" and subtraction as "counting back". *Clarification 2:*Instruction also focuses on the recognition of patterns within skip counting which helps build a foundation for multiplication in later grades. *Clarification 3:* Instruction includes recognizing counting sequences using visual charts, such as a 120 chart, to emphasize base 10 place value.
MA.1.NSO.1.2:	Read numbers from 0 to 100 written in standard form, expanded form and word form. Write numbers from 0 to 100 using standard form and expanded form. **Clarifications:** The number seventy-five written in standard form is 75 and in expanded form is 70 + 5.
MA.1.NSO.1.3:	Compose and decompose two-digit numbers in multiple ways using tens and ones. Demonstrate each composition or decomposition with objects, drawings and expressions or equations.
MA.1.NSO.1.4:	Plot, order and compare whole numbers up to 100. **Clarifications:** *Clarification 1:* When comparing numbers, instruction includes using a number line and using place values of the tens and ones digits. *Clarification 2:* Within this benchmark, the expectation is to use terms (e.g., less than, greater than, between or equal to) and symbols (<, > or =).
MA.1.NSO.2.1:	Recall addition facts with sums to 10 and related subtraction facts with automaticity.
MA.1.NSO.2.2:	Add two whole numbers with sums from 0 to 20, and subtract using related facts with procedural reliability. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably. *Clarification 2:* Instruction includes situations involving adding to, putting together, comparing and taking from.
MA.1.NSO.2.3:	Identify the number that is one more, one less, ten more and ten less than a given two-digit number.
MA.1.NSO.2.4:	Explore the addition of a two-digit number and a one-digit number with sums to 100. **Clarifications:** *Clarification 1:* Instruction focuses on combining ones and tens and composing new tens from ones, when needed. *Clarification 2:* Instruction includes the use of manipulatives, number lines, drawings or models.

MA.1.NSO.2.5:	Explore subtraction of a one-digit number from a two-digit number. **Clarifications:** *Clarification 1:* Instruction focuses on utilizing the number line as a tool for subtraction through "counting on" or "counting back". The process of counting on highlights subtraction as a missing addend problem. *Clarification 2:* Instruction includes the use of manipulatives, drawings or equations to decompose tens and regroup ones, when needed.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways: • Help students make connections between concepts and representations. • Provide opportunities for students to use manipulatives when investigating concepts. • Guide students from concrete to pictorial to abstract representations as understanding progresses. • Show students that various representations can have different purposes and can be useful in different situations.
MA.K12.MTR.3.1:	Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: • Select efficient and appropriate methods for solving problems within the given context. • Maintain flexibility and accuracy while performing procedures and mental calculations. • Complete tasks accurately and with confidence. • Adapt procedures to apply them to a new context. • Use feedback to improve efficiency when performing calculations. **Clarifications:** Teachers who encourage students to complete tasks with mathematical fluency: • Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately. • Offer multiple opportunities for students to practice efficient and generalizable methods. • Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
MA.K12.MTR.4.1:	Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others: • Communicate mathematical ideas, vocabulary and methods effectively. • Analyze the mathematical thinking of others. • Compare the efficiency of a method to those expressed by others. • Recognize errors and suggest how to correctly solve the task. • Justify results by explaining methods and processes. • Construct possible arguments based on evidence. **Clarifications:** Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others: • Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning. • Create opportunities for students to discuss their thinking with peers. • Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods. • Develop students' ability to justify methods and compare their responses to the responses of their peers.
MA.K12.MTR.5.1:	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts: • Focus on relevant details within a problem. • Create plans and procedures to logically order events, steps or ideas to solve problems. • Decompose a complex problem into manageable parts. • Relate previously learned concepts to new concepts. • Look for similarities among problems. • Connect solutions of problems to more complicated large-scale situations.

	Clarifications: Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context.
	Clarifications: Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.
	Clarifications: Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The benchmarks in this course are mastery goals that students are expected to attain by the end of the year. To build mastery, students will continue to review and apply earlier grade-level benchmarks and expectations.

GENERAL NOTES

In grade 1, instructional time will emphasize four areas: (1) understanding the place value of tens and ones within two-digit whole numbers; (2) extending understanding of addition and subtraction and the relationship between them; (3) developing an understanding of measurement of physical objects, money and time and (4) categorizing, composing and decomposing geometric figures.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 5012030

Courses > **Grade Group:** Grades PreK to 5 Education
Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >
Abbreviated Title: GRADE ONE MATH
Course Length: Year (Y)

Course Type: Core Academic Course
Course Status: Data entry status - hidden
Grade Level(s): 1

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

There are more than 6 related instructional/educational resources available for this on CPALMS. Click on the following link to access them: https://www.cpalms.org?title=2022%20-%20And%20Beyond&isShowCurrent=false/Public/PreviewCourse/Preview/17776

Grade Two Mathematics (#5012040) 2022 - And Beyond

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Course Standards

Name	Description
MA.2.AR.1.1:	Solve one- and two-step addition and subtraction real-world problems. **Clarifications:** *Clarification 1:* Instruction includes understanding the context of the problem, as well as the quantities within the problem. *Clarification 2:* Problems include creating real-world situations based on an equation. *Clarification 3:* Addition and subtraction are limited to sums up to 100 and related differences. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.2.AR.2.1:	Determine and explain whether equations involving addition and subtraction are true or false. **Clarifications:** *Clarification 1:* Instruction focuses on understanding of the equal sign. *Clarification 2:* Problem types are limited to an equation with three or four terms. The sum or difference can be on either side of the equal sign. *Clarification 3:* Addition and subtraction are limited to sums up to 100 and related differences.
MA.2.AR.2.2:	Determine the unknown whole number in an addition or subtraction equation, relating three or four whole numbers, with the unknown in any position. **Clarifications:** *Clarification 1:* Instruction extends the development of algebraic thinking skills where the symbolic representation of the unknown uses any symbol other than a letter. *Clarification 2:* Problems include having the unknown on either side of the equal sign. *Clarification 3:* Addition and subtraction are limited to sums up to 100 and related differences. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.2.AR.3.1:	Represent an even number using two equal groups or two equal addends. Represent an odd number using two equal groups with one left over or two equal addends plus 1. **Clarifications:** *Clarification 1:* Instruction focuses on the connection of recognizing even and odd numbers using skip counting, arrays and patterns in the ones place. *Clarification 2:* Addends are limited to whole numbers less than or equal to 12.
MA.2.AR.3.2:	Use repeated addition to find the total number of objects in a collection of equal groups. Represent the total number of objects using rectangular arrays and equations. **Clarifications:** *Clarification 1:* Instruction includes making a connection between arrays and repeated addition, which builds a foundation for multiplication. *Clarification 2:* The total number of objects is limited to 25.
MA.2.DP.1.1:	Collect, categorize and represent data using tally marks, tables, pictographs or bar graphs. Use appropriate titles, labels and units. **Clarifications:** *Clarification 1:* Data displays can be represented both horizontally and vertically. Scales on graphs are limited to ones, fives or tens.
MA.2.DP.1.2:	Interpret data represented with tally marks, tables, pictographs or bar graphs including solving addition and subtraction problems. **Clarifications:** *Clarification 1:* Addition and subtraction problems are limited to whole numbers with sums within 100 and related differences. *Clarification 2:* Data displays can be represented both horizontally and vertically. Scales on graphs are limited to ones, fives or tens.
MA.2.FR.1.1:	Partition circles and rectangles into two, three or four equal-sized parts. Name the parts using appropriate language, and describe the whole as two halves, three thirds or four fourths. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to write the equal-sized parts as a fraction with a numerator and denominator. *Clarification 2:* Problems include mathematical and real-world context.
MA.2.FR.1.2:	Partition rectangles into two, three or four equal-sized parts in two different ways showing that equal-sized parts of the same whole may have different shapes.
MA.2.GR.1.1:	Identify and draw two-dimensional figures based on their defining attributes. Figures are limited to triangles, rectangles, squares, pentagons, hexagons and octagons. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation includes the use of rulers and straight edges.

MA.2.GR.1.2:	Categorize two-dimensional figures based on the number and length of sides, number of vertices, whether they are closed or not and whether the edges are curved or straight. **Clarifications:** *Clarification 1:* Instruction focuses on using formal and informal language to describe defining attributes when categorizing.
MA.2.GR.1.3:	Identify line(s) of symmetry for a two-dimensional figure. **Clarifications:** *Clarification 1:* Instruction focuses on the connection between partitioning two-dimensional figures and symmetry. *Clarification 2:* Problem types include being given an image and determining whether a given line is a line of symmetry or not.
MA.2.GR.2.1:	Explore perimeter as an attribute of a figure by placing unit segments along the boundary without gaps or overlaps. Find perimeters of rectangles by counting unit segments. **Clarifications:** *Clarification 1:* Instruction emphasizes the conceptual understanding that perimeter is an attribute that can be measured for a two-dimensional figure. *Clarification 2:* Instruction includes real-world objects, such as picture frames or desktops.
MA.2.GR.2.2:	Find the perimeter of a polygon with whole-number side lengths. Polygons are limited to triangles, rectangles, squares and pentagons. **Clarifications:** *Clarification 1:* Instruction includes the connection to the associative and commutative properties of addition. Refer to Properties of Operations, Equality and Inequality (Appendix D). *Clarification 2:* Within this benchmark, the expectation is not to use a formula to find perimeter. *Clarification 3:* Instruction includes cases where the side lengths are given or measured to the nearest unit. *Clarification 4:* Perimeter cannot exceed 100 units and responses include the appropriate units.
MA.2.M.1.1:	Estimate and measure the length of an object to the nearest inch, foot, yard, centimeter or meter by selecting and using an appropriate tool. **Clarifications:** *Clarification 1:* Instruction includes seeing rulers and tape measures as number lines. *Clarification 2:* Instruction focuses on recognizing that when an object is measured in two different units, fewer of the larger units are required. When comparing measurements of the same object in different units, measurement conversions are not expected. *Clarification 3:* When estimating the size of an object, a comparison with an object of known size can be used.
MA.2.M.1.2:	Measure the lengths of two objects using the same unit and determine the difference between their measurements. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is to measure objects to the nearest inch, foot, yard, centimeter or meter.
MA.2.M.1.3:	Solve one- and two-step real-world measurement problems involving addition and subtraction of lengths given in the same units. **Clarifications:** *Clarification 1:* Addition and subtraction problems are limited to sums within 100 and related differences.
MA.2.M.2.1:	Using analog and digital clocks, tell and write time to the nearest five minutes using a.m. and p.m. appropriately. Express portions of an hour using the fractional terms half an hour, half past, quarter of an hour, quarter after and quarter til. **Clarifications:** *Clarification 1:* Instruction includes the connection to partitioning of circles and to the number line. *Clarification 2:* Within this benchmark, the expectation is not to understand military time
MA.2.M.2.2:	Solve one- and two-step addition and subtraction real-world problems involving either dollar bills within $100 or coins within 100¢ using $ and ¢ symbols appropriately. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to use decimal values. *Clarification 2:* Addition and subtraction problems are limited to sums within 100 and related differences. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.2.NSO.1.1:	Read and write numbers from 0 to 1,000 using standard form, expanded form and word form.
MA.2.NSO.1.2:	Compose and decompose three-digit numbers in multiple ways using hundreds, tens and ones. Demonstrate each composition or decomposition with objects, drawings and expressions or equations.
MA.2.NSO.1.3:	Plot, order and compare whole numbers up to 1,000. **Clarifications:** *Clarification 1:* When comparing numbers, instruction includes using a number line and using place values of the hundreds, tens and ones digits. *Clarification 2:* Within this benchmark, the expectation is to use terms (e.g., less than, greater than, between or equal to) and symbols (<, > or =).
MA.2.NSO.1.4:	Round whole numbers from 0 to 100 to the nearest 10. **Clarifications:** *Clarification 1:* Within the benchmark, the expectation is to understand that rounding is a process that produces a number with a similar value that is less precise but easier to use.
MA.2.NSO.2.1:	Recall addition facts with sums to 20 and related subtraction facts with automaticity.
MA.2.NSO.2.2:	Identify the number that is ten more, ten less, one hundred more and one hundred less than a given three-digit number.
MA.2.NSO.2.3:	Add two whole numbers with sums up to 100 with procedural reliability. Subtract a whole number from a whole number, each no larger than 100, with procedural reliability. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably.

Explore the addition of two whole numbers with sums up to 1,000. Explore the subtraction of a whole number from a whole number, each no larger than 1,000.

MA.2.NSO.2.4:

Clarifications:
Clarification 1: Instruction includes the use of manipulatives, number lines, drawings or properties of operations or place value.
Clarification 2: Instruction focuses on composing and decomposing ones, tens and hundreds when needed.

Mathematicians who participate in effortful learning both individually and with others:

- Analyze the problem in a way that makes sense given the task.
- Ask questions that will help with solving the task.
- Build perseverance by modifying methods as needed while solving a challenging task.
- Stay engaged and maintain a positive mindset when working to solve tasks.
- Help and support each other when attempting a new method or approach.

MA.K12.MTR.1.1:

Clarifications:
Teachers who encourage students to participate actively in effortful learning both individually and with others:

- Cultivate a community of growth mindset learners.
- Foster perseverance in students by choosing tasks that are challenging.
- Develop students' ability to analyze and problem solve.
- Recognize students' effort when solving challenging problems.

Demonstrate understanding by representing problems in multiple ways.
Mathematicians who demonstrate understanding by representing problems in multiple ways:

- Build understanding through modeling and using manipulatives.
- Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
- Progress from modeling problems with objects and drawings to using algorithms and equations.
- Express connections between concepts and representations.
- Choose a representation based on the given context or purpose.

MA.K12.MTR.2.1:

Clarifications:
Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

- Help students make connections between concepts and representations.
- Provide opportunities for students to use manipulatives when investigating concepts.
- Guide students from concrete to pictorial to abstract representations as understanding progresses.
- Show students that various representations can have different purposes and can be useful in different situations.

Complete tasks with mathematical fluency.
Mathematicians who complete tasks with mathematical fluency:

- Select efficient and appropriate methods for solving problems within the given context.
- Maintain flexibility and accuracy while performing procedures and mental calculations.
- Complete tasks accurately and with confidence.
- Adapt procedures to apply them to a new context.
- Use feedback to improve efficiency when performing calculations.

MA.K12.MTR.3.1:

Clarifications:
Teachers who encourage students to complete tasks with mathematical fluency:

- Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
- Offer multiple opportunities for students to practice efficient and generalizable methods.
- Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.

Engage in discussions that reflect on the mathematical thinking of self and others.
Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:

- Communicate mathematical ideas, vocabulary and methods effectively.
- Analyze the mathematical thinking of others.
- Compare the efficiency of a method to those expressed by others.
- Recognize errors and suggest how to correctly solve the task.
- Justify results by explaining methods and processes.
- Construct possible arguments based on evidence.

MA.K12.MTR.4.1:

Clarifications:
Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:

- Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
- Create opportunities for students to discuss their thinking with peers.
- Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
- Develop students' ability to justify methods and compare their responses to the responses of their peers.

Use patterns and structure to help understand and connect mathematical concepts.
Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

- Focus on relevant details within a problem.
- Create plans and procedures to logically order events, steps or ideas to solve problems.
- Decompose a complex problem into manageable parts.
- Relate previously learned concepts to new concepts.
- Look for similarities among problems.
- Connect solutions of problems to more complicated large-scale situations.

MA.K12.MTR.5.1:

Clarifications:

	Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context.
	Clarifications: Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.
	Clarifications: Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The benchmarks in this course are mastery goals that students are expected to attain by the end of the year. To build mastery, students will continue to review and apply earlier grade-level benchmarks and expectations.

GENERAL NOTES

In grade 2, instructional time will emphasize four areas: (1) extending understanding of place value in three-digit numbers; (2) building fluency and algebraic reasoning with addition and subtraction; (3) extending understanding of measurement of objects, time and the perimeter of geometric figures and (4) developing spatial reasoning with number representations and two-dimensional figures.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

GENERAL INFORMATION

Course Number: 5012040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:**

General Mathematics >
Abbreviated Title: GRADE TWO MATH
Course Length: Year (Y)
Course Level: 2

Course Type: Core Academic Course
Course Status: Data entry status - hidden
Grade Level(s): 2

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

There are more than 6 related instructional/educational resources available for this on CPALMS. Click on the following link to access them: https://www.cpalms.org?title=2022%20-%20And%20Beyond&isShowCurrent=false/Public/PreviewCourse/Preview/17777

Grade Three Mathematics (#5012050) 2022 - And Beyond

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Course Standards

Name	Description
MA.3.AR.1.1:	Apply the distributive property to multiply a one-digit number and two-digit number. Apply properties of multiplication to find a product of one-digit whole numbers. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is to apply the associative and commutative properties of multiplication, the distributive property and name the properties. Refer to K-12 Glossary (Appendix C). *Clarification 2:* Within the benchmark, the expectation is to utilize parentheses. *Clarification 3:* Multiplication for products of three or more numbers is limited to factors within 12. Refer to Properties of Operations, Equality and Inequality (Appendix D).
MA.3.AR.1.2:	Solve one- and two-step real-world problems involving any of four operations with whole numbers. **Clarifications:** *Clarification 1:* Instruction includes understanding the context of the problem, as well as the quantities within the problem. *Clarification 2:* Multiplication is limited to factors within 12 and related division facts. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.3.AR.2.1:	Restate a division problem as a missing factor problem using the relationship between multiplication and division. **Clarifications:** *Clarification 1:* Multiplication is limited to factors within 12 and related division facts. *Clarification 2:* Within this benchmark, the symbolic representation of the missing factor uses any symbol or a letter.
MA.3.AR.2.2:	Determine and explain whether an equation involving multiplication or division is true or false. **Clarifications:** *Clarification 1:* Instruction extends the understanding of the meaning of the equal sign to multiplication and division. *Clarification 2:* Problem types are limited to an equation with three or four terms. The product or quotient can be on either side of the equal sign. *Clarification 3:* Multiplication is limited to factors within 12 and related division facts.
MA.3.AR.2.3:	Determine the unknown whole number in a multiplication or division equation, relating three whole numbers, with the unknown in any position. **Clarifications:** *Clarification 1:* Instruction extends the development of algebraic thinking skills where the symbolic representation of the unknown uses any symbol or a letter. *Clarification 2:* Problems include the unknown on either side of the equal sign. *Clarification 3:* Multiplication is limited to factors within 12 and related division facts. Refer to Situations Involving Operations with Numbers (Appendix A).
MA.3.AR.3.1:	Determine and explain whether a whole number from 1 to 1,000 is even or odd. **Clarifications:** *Clarification 1:* Instruction includes determining and explaining using place value and recognizing patterns.
MA.3.AR.3.2:	Determine whether a whole number from 1 to 144 is a multiple of a given one-digit number. **Clarifications:** *Clarification 1:* Instruction includes determining if a number is a multiple of a given number by using multiplication or division.
MA.3.AR.3.3:	Identify, create and extend numerical patterns. **Clarifications:** *Clarification 1:* The expectation is to use ordinal numbers (1st, 2nd, 3rd, . .) to describe the position of a number within a sequence. *Clarification 2:* Problem types include patterns involving addition, subtraction, multiplication or division of whole numbers.
MA.3.DP.1.1:	Collect and represent numerical and categorical data with whole-number values using tables, scaled pictographs, scaled bar graphs or line plots. Use appropriate titles, labels and units. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is to complete a representation or construct a representation from a data set. *Clarification 2:* Instruction includes the connection between multiplication and the number of data points represented by a bar in scaled bar graph or a scaled column in a pictograph. *Clarification 3:* Data displays are represented both horizontally and vertically.
	Interpret data with whole-number values represented with tables, scaled pictographs, circle graphs, scaled bar graphs or line plots by solving one- and

	two-step problems.
MA.3.DP.1.2:	**Clarifications:** *Clarification 1:* Problems include the use of data in informal comparisons between two data sets in the same units. *Clarification 2:* Data displays can be represented both horizontally and vertically. *Clarification 3:* Circle graphs are limited to showing the total values in each category.
	Represent and interpret fractions, including fractions greater than one, in the form of $\frac{m}{n}$ as multiples of a unit fraction.
MA.3.FR.1.2:	**Clarifications:** *Clarification 1:* Instruction emphasizes conceptual understanding through the use of manipulatives or visual models, including circle graphs, to represent fractions. *Clarification 2:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12.
	Read and write fractions, including fractions greater than one, using standard form, numeral-word form and word form.
MA.3.FR.1.3:	**Clarifications:** *Clarification 1:* Instruction focuses on making connections to reading and writing numbers to develop the understanding that fractions are numbers and to support algebraic thinking in later grades. *Clarification 2:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10 and 12.
	Plot, order and compare fractional numbers with the same numerator or the same denominator.
MA.3.FR.2.1:	**Clarifications:** *Clarification 1:* Instruction includes making connections between using a ruler and plotting and ordering fractions on a number line. *Clarification 2:* When comparing fractions, instruction includes an appropriately scaled number line and using reasoning about their size. *Clarification 3:* Fractions include fractions greater than one, including mixed numbers, with denominators limited to 2, 3, 4, 5, 6, 8, 10 and 12.
	Identify equivalent fractions and explain why they are equivalent.
MA.3.FR.2.2:	**Clarifications:** *Clarification 1:* Instruction includes identifying equivalent fractions and explaining why they are equivalent using manipulatives, drawings, and number lines. *Clarification 2:* Within this benchmark, the expectation is not to generate equivalent fractions. *Clarification 3:* Fractions are limited to fractions less than or equal to one with denominators of 2, 3, 4, 5, 6, 8, 10 and 12. Number lines must be given and scaled appropriately.
	Describe and draw points, lines, line segments, rays, intersecting lines, perpendicular lines and parallel lines. Identify these in two-dimensional figures.
MA.3.GR.1.1:	**Clarifications:** *Clarification 1:* Instruction includes mathematical and real-world context for identifying points, lines, line segments, rays, intersecting lines, perpendicular lines and parallel lines. *Clarification 2:* When working with perpendicular lines, right angles can be called square angles or square corners.
	Identify and draw quadrilaterals based on their defining attributes. Quadrilaterals include parallelograms, rhombi, rectangles, squares and trapezoids.
MA.3.GR.1.2:	**Clarifications:** *Clarification 1:* Instruction includes a variety of quadrilaterals and a variety of non-examples that lack one or more defining attributes when identifying quadrilaterals. *Clarification 2:* Quadrilaterals will be filled, outlined or both when identifying. *Clarification 3:* Drawing representations must be reasonably accurate.
	Draw line(s) of symmetry in a two-dimensional figure and identify line-symmetric two-dimensional figures.
MA.3.GR.1.3:	**Clarifications:** *Clarification 1:* Instruction develops the understanding that there could be no line of symmetry, exactly one line of symmetry or more than one line of symmetry. *Clarification 2:* Instruction includes folding paper along a line of symmetry so that both halves match exactly to confirm line-symmetric figures.
	Explore area as an attribute of a two-dimensional figure by covering the figure with unit squares without gaps or overlaps. Find areas of rectangles by counting unit squares.
MA.3.GR.2.1:	**Clarifications:** *Clarification 1:* Instruction emphasizes the conceptual understanding that area is an attribute that can be measured for a two-dimensional figure. The measurement unit for area is the area of a unit square, which is a square with side length of 1 unit. *Clarification 2:* Two-dimensional figures cannot exceed 12 units by 12 units and responses include the appropriate units in word form (e.g., square centimeter or sq.cm.).
	Find the area of a rectangle with whole-number side lengths using a visual model and a multiplication formula.
MA.3.GR.2.2:	**Clarifications:** *Clarification 1:* Instruction includes covering the figure with unit squares, a rectangular array or applying a formula. *Clarification 2:* Two-dimensional figures cannot exceed 12 units by 12 units and responses include the appropriate units in word form.
	Solve mathematical and real-world problems involving the perimeter and area of rectangles with whole-number side lengths using a visual model and a formula.
MA.3.GR.2.3:	**Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to find unknown side lengths. *Clarification 2:* Two-dimensional figures cannot exceed 12 units by 12 units and responses include the appropriate units in word form.
	Solve mathematical and real-world problems involving the perimeter and area of composite figures composed of non-overlapping rectangles with

	whole-number side lengths.
MA.3.GR.2.4:	**Clarifications:** *Clarification 1:* Composite figures must be composed of non-overlapping rectangles. *Clarification 2:* Each rectangle within the composite figure cannot exceed 12 units by 12 units and responses include the appropriate units in word form.
MA.3.M.1.1:	Select and use appropriate tools to measure the length of an object, the volume of liquid within a beaker and temperature. **Clarifications:** *Clarification 1:* Instruction focuses on identifying measurement on a linear scale, making the connection to the number line. *Clarification 2:* When measuring the length, limited to the nearest centimeter and half or quarter inch. *Clarification 3:* When measuring the temperature, limited to the nearest degree. *Clarification 4:* When measuring the volume of liquid, limited to nearest milliliter and half or quarter cup.
MA.3.M.1.2:	Solve real-world problems involving any of the four operations with whole-number lengths, masses, weights, temperatures or liquid volumes. **Clarifications:** *Clarification 1:* Within this benchmark, it is the expectation that responses include appropriate units. *Clarification 2:* Problem types are not expected to include measurement conversions. *Clarification 3:* Instruction includes the comparison of attributes measured in the same units. *Clarification 4:* Units are limited to yards, feet, inches; meters, centimeters; pounds, ounces; kilograms, grams; degrees Fahrenheit, degrees Celsius; gallons, quarts, pints, cups; and liters, milliliters.
MA.3.M.2.1:	Using analog and digital clocks tell and write time to the nearest minute using a.m. and p.m. appropriately **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to understand military time.
MA.3.M.2.2:	Solve one- and two-step real-world problems involving elapsed time. **Clarifications:** *Clarification 1:* Within this benchmark, the expectation is not to include crossing between a.m. and p.m.
MA.3.NSO.1.1:	Read and write numbers from 0 to 10,000 using standard form, expanded form and word form.
MA.3.NSO.1.2:	Compose and decompose four-digit numbers in multiple ways using thousands, hundreds, tens and ones. Demonstrate each composition or decomposition using objects, drawings and expressions or equations.
MA.3.NSO.1.3:	Plot, order and compare whole numbers up to 10,000. **Clarifications:** *Clarification 1:* When comparing numbers, instruction includes using an appropriately scaled number line and using place values of the thousands, hundreds, tens and ones digits. *Clarification 2:* Number lines, scaled by 50s, 100s or 1,000s, must be provided and can be a representation of any range of numbers. *Clarification 3:* Within this benchmark, the expectation is to use symbols (<, > or =).
MA.3.NSO.1.4:	Round whole numbers from 0 to 1,000 to the nearest 10 or 100.
MA.3.NSO.2.1:	Add and subtract multi-digit whole numbers including using a standard algorithm with procedural fluency.
MA.3.NSO.2.2:	Explore multiplication of two whole numbers with products from 0 to 144, and related division facts. **Clarifications:** *Clarification 1:* Instruction includes equal groups, arrays, area models and equations. *Clarification 2:* Within the benchmark, it is the expectation that one problem can be represented in multiple ways and understanding how the different representations are related to each other. *Clarification 3:* Factors and divisors are limited to up to 12.
MA.3.NSO.2.3:	Multiply a one-digit whole number by a multiple of 10, up to 90, or a multiple of 100, up to 900, with procedural reliability. **Clarifications:** *Clarification 1:* When multiplying one-digit numbers by multiples of 10 or 100, instruction focuses on methods that are based on place value.
MA.3.NSO.2.4:	Multiply two whole numbers from 0 to 12 and divide using related facts with procedural reliability. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways:

- Build understanding through modeling and using manipulatives.
- Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
- Progress from modeling problems with objects and drawings to using algorithms and equations.
- Express connections between concepts and representations.

MA.K12.MTR.2.1:

- Choose a representation based on the given context or purpose.

Clarifications:
Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

- Help students make connections between concepts and representations.
- Provide opportunities for students to use manipulatives when investigating concepts.
- Guide students from concrete to pictorial to abstract representations as understanding progresses.
- Show students that various representations can have different purposes and can be useful in different situations.

Complete tasks with mathematical fluency.
Mathematicians who complete tasks with mathematical fluency:

- Select efficient and appropriate methods for solving problems within the given context.
- Maintain flexibility and accuracy while performing procedures and mental calculations.
- Complete tasks accurately and with confidence.
- Adapt procedures to apply them to a new context.

MA.K12.MTR.3.1:

- Use feedback to improve efficiency when performing calculations.

Clarifications:
Teachers who encourage students to complete tasks with mathematical fluency:

- Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
- Offer multiple opportunities for students to practice efficient and generalizable methods.
- Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.

Engage in discussions that reflect on the mathematical thinking of self and others.
Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:

- Communicate mathematical ideas, vocabulary and methods effectively.
- Analyze the mathematical thinking of others.
- Compare the efficiency of a method to those expressed by others.
- Recognize errors and suggest how to correctly solve the task.
- Justify results by explaining methods and processes.

MA.K12.MTR.4.1:

- Construct possible arguments based on evidence.

Clarifications:
Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:

- Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
- Create opportunities for students to discuss their thinking with peers.
- Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
- Develop students' ability to justify methods and compare their responses to the responses of their peers.

Use patterns and structure to help understand and connect mathematical concepts.
Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

- Focus on relevant details within a problem.
- Create plans and procedures to logically order events, steps or ideas to solve problems.
- Decompose a complex problem into manageable parts.
- Relate previously learned concepts to new concepts.
- Look for similarities among problems.

MA.K12.MTR.5.1:

- Connect solutions of problems to more complicated large-scale situations.

Clarifications:
Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts:

- Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts.
- Support students to develop generalizations based on the similarities found among problems.
- Provide opportunities for students to create plans and procedures to solve problems.
- Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.

Assess the reasonableness of solutions.
Mathematicians who assess the reasonableness of solutions:

- Estimate to discover possible solutions.
- Use benchmark quantities to determine if a solution makes sense.
- Check calculations when solving problems.
- Verify possible solutions by explaining the methods used.

MA.K12.MTR.6.1:

- Evaluate results based on the given context.

Clarifications:
Teachers who encourage students to assess the reasonableness of solutions:

- Have students estimate or predict solutions prior to solving.
- Prompt students to continually ask, "Does this solution make sense? How do you know?"
- Reinforce that students check their work as they progress within and after a task.
- Strengthen students' ability to verify solutions through justifications.

Apply mathematics to real-world contexts.
Mathematicians who apply mathematics to real-world contexts:

	• Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.
MA.K12.MTR.7.1:	**Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The benchmarks in this course are mastery goals that students are expected to attain by the end of the year. To build mastery, students will continue to review and apply earlier grade-level benchmarks and expectations.

GENERAL NOTES

In grade 3, instructional time will emphasize four areas: (1) adding and subtracting multi-digit whole numbers, including using a standard algorithm; (2) building an understanding of multiplication and division, the relationship between them and the connection to area of rectangles; (3) developing an understanding of fractions and (4) extending geometric reasoning to lines and attributes of quadrilaterals.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

GENERAL INFORMATION

Course Number: 5012050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: GRADE THREE MATH

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Data entry status - hidden

Grade Level(s): 3

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

There are more than 6 related instructional/educational resources available for this on CPALMS. Click on the following link to access

them: https://www.cpalms.org?title=2022%20-%20And%20Beyond&isShowCurrent=false/Public/PreviewCourse/Preview/17778

Grade Four Mathematics (#5012060) 2022 - And Beyond

This document was generated on CPALMS - www.cpalms.org

You are not viewing the current course, please click the current year's tab.

Course Standards

Name	Description
MA.4.AR.1.1:	Solve real-world problems involving multiplication and division of whole numbers including problems in which remainders must be interpreted within the context. **Clarifications:** *Clarification 1:* Problems involving multiplication include multiplicative comparisons. Refer to Situations Involving Operations with Numbers (Appendix A). *Clarification 2:* Depending on the context, the solution of a division problem with a remainder may be the whole number part of the quotient, the whole number part of the quotient with the remainder, the whole number part of the quotient plus 1, or the remainder. *Clarification 3:* Multiplication is limited to products of up to 3 digits by 2 digits. Division is limited to up to 4 digits divided by 1 digit.
MA.4.AR.1.2:	Solve real-world problems involving addition and subtraction of fractions with like denominators, including mixed numbers and fractions greater than one. **Clarifications:** *Clarification 1:* Problems include creating real-world situations based on an equation or representing a real-world problem with a visual model or equation. *Clarification 2:* Fractions within problems must reference the same whole. *Clarification 3:* Within this benchmark, the expectation is not to simplify or use lowest terms. *Clarification 4:* Denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.AR.1.3:	Solve real-world problems involving multiplication of a fraction by a whole number or a whole number by a fraction. **Clarifications:** *Clarification 1:* Problems include creating real-world situations based on an equation or representing a real-world problem with a visual model or equation. *Clarification 2:* Fractions within problems must reference the same whole. *Clarification 3:* Within this benchmark, the expectation is not to simplify or use lowest terms. *Clarification 4:* Fractions limited to fractions less than one with denominators of 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.AR.2.1:	Determine and explain whether an equation involving any of the four operations with whole numbers is true or false. **Clarifications:** *Clarification 1:* Multiplication is limited to whole number factors within 12 and related division facts.
MA.4.AR.2.2:	Given a mathematical or real-world context, write an equation involving multiplication or division to determine the unknown whole number with the unknown in any position. **Clarifications:** *Clarification 1:* Instruction extends the development of algebraic thinking skills where the symbolic representation of the unknown uses a letter. *Clarification 2:* Problems include the unknown on either side of the equal sign. *Clarification 3:* Multiplication is limited to factors within 12 and related division facts.
MA.4.AR.3.1:	Determine factor pairs for a whole number from 0 to 144. Determine whether a whole number from 0 to 144 is prime, composite or neither. **Clarifications:** *Clarification 1:* Instruction includes the connection to the relationship between multiplication and division and patterns with divisibility rules. *Clarification 2:* The numbers 0 and 1 are neither prime nor composite.
MA.4.AR.3.2:	Generate, describe and extend a numerical pattern that follows a given rule. **Clarifications:** *Clarification 1:* Instruction includes patterns within a mathematical or real-world context.
MA.4.DP.1.1:	Collect and represent numerical data, including fractional values, using tables, stem-and-leaf plots or line plots. **Clarifications:** *Clarification 1:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.DP.1.2:	Determine the mode, median or range to interpret numerical data including fractional values, represented with tables, stem-and-leaf plots or line plots. **Clarifications:** *Clarification 1:* Instruction includes interpreting data within a real-world context. *Clarification 2:* Instruction includes recognizing that data sets can have one mode, no mode or more than one mode. *Clarification 3:* Within this benchmark, data sets are limited to an odd number when calculating the median.

	Clarification 4: Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.DP.1.3:	Solve real-world problems involving numerical data. **Clarifications:** *Clarification 1:* Instruction includes using any of the four operations to solve problems. C *Clarification 2:* Data involving fractions with like denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100. Fractions can be greater than one. *Clarification 3:* Data involving decimals are limited to hundredths.
MA.4.FR.1.1:	Model and express a fraction, including mixed numbers and fractions greater than one, with the denominator 10 as an equivalent fraction with the denominator 100. **Clarifications:** *Clarification 1:* Instruction emphasizes conceptual understanding through the use of manipulatives, visual models, number lines or equations.
MA.4.FR.1.2:	Use decimal notation to represent fractions with denominators of 10 or 100, including mixed numbers and fractions greater than 1, and use fractional notation with denominators of 10 or 100 to represent decimals. **Clarifications:** *Clarification 1:* Instruction emphasizes conceptual understanding through the use of manipulatives visual models, number lines or equations. *Clarification 2:* Instruction includes the understanding that a decimal and fraction that are equivalent represent the same point on the number line and that fractions with denominators of 10 or powers of 10 may be called decimal fractions.
MA.4.FR.1.3:	Identify and generate equivalent fractions, including fractions greater than one. Describe how the numerator and denominator are affected when the equivalent fraction is created. **Clarifications:** *Clarification 1:* Instruction includes the use of manipulatives, visual models, number lines or equations. *Clarification 2:* Instruction includes recognizing how the numerator and denominator are affected when equivalent fractions are generated.
MA.4.FR.1.4:	Plot, order and compare fractions, including mixed numbers and fractions greater than one, with different numerators and different denominators. **Clarifications:** *Clarification 1:* When comparing fractions, instruction includes using an appropriately scaled number line and using reasoning about their size. *Clarification 2:* Within this benchmark, the expectation is to be able to use benchmark quantities, such as 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1, to compare fractions. *Clarification 3:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100. *Clarification 4:* Within this benchmark, the expectation is to use symbols (<, > or =).
MA.4.FR.2.1:	Decompose a fraction, including mixed numbers and fractions greater than one, into a sum of fractions with the same denominator in multiple ways. Demonstrate each decomposition with objects, drawings and equations. **Clarifications:** *Clarification 1:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.FR.2.2:	Add and subtract fractions with like denominators, including mixed numbers and fractions greater than one, with procedural reliability. **Clarifications:** *Clarification 1:* Instruction includes the use of word form, manipulatives, drawings, the properties of operations or number lines. *Clarification 2:* Within this benchmark, the expectation is not to simplify or use lowest terms. *Clarification 3:* Denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.FR.2.3:	Explore the addition of a fraction with denominator of 10 to a fraction with denominator of 100 using equivalent fractions. **Clarifications:** *Clarification 1:* Instruction includes the use of visual models. *Clarification 2:* Within this benchmark, the expectation is not to simplify or use lowest terms.
MA.4.FR.2.4:	Extend previous understanding of multiplication to explore the multiplication of a fraction by a whole number or a whole number by a fraction. **Clarifications:** *Clarification 1:* Instruction includes the use of visual models or number lines and the connection to the commutative property of multiplication. Refer to Properties of Operation, Equality and Inequality (Appendix D). *Clarification 2:* Within this benchmark, the expectation is not to simplify or use lowest terms. *Clarification 3:* Fractions multiplied by a whole number are limited to less than 1. All denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16, 100.
MA.4.GR.1.1:	Informally explore angles as an attribute of two-dimensional figures. Identify and classify angles as acute, right, obtuse, straight or reflex. **Clarifications:** *Clarification 1:* Instruction includes classifying angles using benchmark angles of 90° and 180° in two-dimensional figures. *Clarification 2:* When identifying angles, the expectation includes two-dimensional figures and real-world pictures.
MA.4.GR.1.2:	Estimate angle measures. Using a protractor, measure angles in whole-number degrees and draw angles of specified measure in whole-number degrees. Demonstrate that angle measure is additive. **Clarifications:** *Clarification 1:* Instruction includes measuring given angles and drawing angles using protractors. *Clarification 2:* Instruction includes estimating angle measures using benchmark angles (30°, 45°, 60°, 90° and 180°). *Clarification 3:* Instruction focuses on the understanding that angles can be decomposed into non-overlapping angles whose measures sum to the measure of the original angle.

MA.4.GR.1.3:	Solve real-world and mathematical problems involving unknown whole-number angle measures. Write an equation to represent the unknown. **Clarifications:** *Clarification 1:* Instruction includes the connection to angle measure as being additive.
MA.4.GR.2.1:	Solve perimeter and area mathematical and real-world problems, including problems with unknown sides, for rectangles with whole-number side lengths. **Clarifications:** *Clarification 1:* Instruction extends the development of algebraic thinking where the symbolic representation of the unknown uses a letter. *Clarification 2:* Problems involving multiplication are limited to products of up to 3 digits by 2 digits. Problems involving division are limited to up to 4 digits divided by 1 digit. *Clarification 3:* Responses include the appropriate units in word form.
MA.4.GR.2.2:	Solve problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters. **Clarifications:** *Clarification 1:* Instruction focuses on the conceptual understanding of the relationship between perimeter and area. *Clarification 2:* Within this benchmark, rectangles are limited to having whole-number side lengths. *Clarification 3:* Problems involving multiplication are limited to products of up to 3 digits by 2 digits. Problems involving division are limited to up to 4 digits divided by 1 digit. *Clarification 4:* Responses include the appropriate units in word form.
MA.4.M.1.1:	Select and use appropriate tools to measure attributes of objects. **Clarifications:** *Clarification 1:* Attributes include length, volume, weight, mass and temperature. *Clarification 2:* Instruction includes digital measurements and scales that are not linear in appearance. *Clarification 3:* When recording measurements, use fractions and decimals where appropriate.
MA.4.M.1.2:	Convert within a single system of measurement using the units: yards, feet, inches; kilometers, meters, centimeters, millimeters; pounds, ounces; kilograms, grams; gallons, quarts, pints, cups; liter, milliliter; and hours, minutes, seconds. **Clarifications:** *Clarification 1:* Instruction includes the understanding of how to convert from smaller to larger units or from larger to smaller units. *Clarification 2:* Within the benchmark, the expectation is not to convert from grams to kilograms, meters to kilometers or milliliters to liters. *Clarification 3:* Problems involving fractions are limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100.
MA.4.M.2.1:	Solve two-step real-world problems involving distances and intervals of time using any combination of the four operations. **Clarifications:** *Clarification 1:* Problems involving fractions will include addition and subtraction with like denominators and multiplication of a fraction by a whole number or a whole number by a fraction. *Clarification 2:* Problems involving fractions are limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, 16 and 100. *Clarification 3:* Within the benchmark, the expectation is not to use decimals.
MA.4.M.2.2:	Solve one- and two-step addition and subtraction real-world problems involving money using decimal notation.
MA.4.NSO.1.1:	Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.
MA.4.NSO.1.2:	Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.
MA.4.NSO.1.3:	Plot, order and compare multi-digit whole numbers up to 1,000,000. **Clarifications:** *Clarification 1:* When comparing numbers, instruction includes using an appropriately scaled number line and using place values of the hundred thousands, ten thousands, thousands, hundreds, tens and ones digits. *Clarification 2:* Scaled number lines must be provided and can be a representation of any range of numbers. *Clarification 3:* Within this benchmark, the expectation is to use symbols (<, > or =).
MA.4.NSO.1.4:	Round whole numbers from 0 to 10,000 to the nearest 10, 100 or 1,000.
MA.4.NSO.1.5:	Plot, order and compare decimals up to the hundredths. **Clarifications:** *Clarification 1:* When comparing numbers, instruction includes using an appropriately scaled number line and using place values of the ones, tenths and hundredths digits. *Clarification 2:* Within the benchmark, the expectation is to explain the reasoning for the comparison and use symbols (<, > or =). *Clarification 3:* Scaled number lines must be provided and can be a representation of any range of numbers.
MA.4.NSO.2.1:	Recall multiplication facts with factors up to 12 and related division facts with automaticity.
MA.4.NSO.2.2:	Multiply two whole numbers, up to three digits by up to two digits, with procedural reliability. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably. *Clarification 2:* Instruction includes the use of models or equations based on place value and the distributive property.
MA.4.NSO.2.3:	Multiply two whole numbers, each up to two digits, including using a standard algorithm with procedural fluency.
MA.4.NSO.2.4:	Divide a whole number up to four digits by a one-digit whole number with procedural reliability. Represent remainders as fractional parts of the divisor. **Clarifications:** *Clarification 1:* Instruction focuses on helping a student choose a method they can use reliably. *Clarification 2:* Instruction includes the use of models based on place value, properties of operations or the relationship between multiplication and division.

MA.4.NSO.2.5:	Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value. **Clarifications:** *Clarification 1:* Instruction focuses on previous understanding of multiplication with multiples of 10 and 100, and seeing division as a missing factor problem. *Clarification 2:* Estimating quotients builds the foundation for division using a standard algorithm. *Clarification 3:* When estimating the division of whole numbers, dividends are limited to up to four digits and divisors are limited to up to two digits.
MA.4.NSO.2.6:	Identify the number that is one-tenth more, one-tenth less, one-hundredth more and one-hundredth less than a given number.
MA.4.NSO.2.7:	Explore the addition and subtraction of multi-digit numbers with decimals to the hundredths. **Clarifications:** *Clarification 1:* Instruction includes the connection to money and the use of manipulatives and models based on place value.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others. • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways: • Help students make connections between concepts and representations. • Provide opportunities for students to use manipulatives when investigating concepts. • Guide students from concrete to pictorial to abstract representations as understanding progresses. • Show students that various representations can have different purposes and can be useful in different situations.
MA.K12.MTR.3.1:	Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: • Select efficient and appropriate methods for solving problems within the given context. • Maintain flexibility and accuracy while performing procedures and mental calculations. • Complete tasks accurately and with confidence. • Adapt procedures to apply them to a new context. • Use feedback to improve efficiency when performing calculations. **Clarifications:** Teachers who encourage students to complete tasks with mathematical fluency: • Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately. • Offer multiple opportunities for students to practice efficient and generalizable methods. • Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
MA.K12.MTR.4.1:	Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others: • Communicate mathematical ideas, vocabulary and methods effectively. • Analyze the mathematical thinking of others. • Compare the efficiency of a method to those expressed by others. • Recognize errors and suggest how to correctly solve the task. • Justify results by explaining methods and processes. • Construct possible arguments based on evidence. **Clarifications:** Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others: • Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning. • Create opportunities for students to discuss their thinking with peers. • Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods. • Develop students' ability to justify methods and compare their responses to the responses of their peers.
	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

MA.K12.MTR.5.1:	• Focus on relevant details within a problem. • Create plans and procedures to logically order events, steps or ideas to solve problems. • Decompose a complex problem into manageable parts. • Relate previously learned concepts to new concepts. • Look for similarities among problems. • Connect solutions of problems to more complicated large-scale situations. **Clarifications:** Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context. **Clarifications:** Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency. **Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The benchmarks in this course are mastery goals that students are expected to attain by the end of the year. To build mastery, students will continue to review and apply earlier grade-level benchmarks and expectations.

GENERAL NOTES

In grade 4, instructional time will emphasize four areas: (1) extending understanding of multi-digit multiplication and division; (2) developing the relationship between fractions and decimals and beginning operations with both; (3) classifying and measuring angles and (4) developing an understanding for interpreting data to include mode, median and range.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

GENERAL INFORMATION

Course Number: 5012060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: GRADE FOUR MATH

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Data entry status - hidden

Grade Level(s): 4

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

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Mathematics - Grade Five (#5012070) 2015 - 2022 (current)

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Course Standards

Name	Description
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
MAFS.5.G.1.2:	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
MAFS.5.G.2.3:	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
MAFS.5.G.2.4:	Classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.
MAFS.5.MD.1.1:	Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*
MAFS.5.MD.3.3:	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MAFS.5.MD.3.4:	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
MAFS.5.MD.3.5:	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students work with volume as an attribute of a solid figure and as a measurement quantity. Students also relate volume to multiplication and addition. This work begins a progression leading to valuable skills in geometric measurement in middle school.
MAFS.5.NBT.1.1:	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension of the place value system from whole numbers to decimals is a major intellectual accomplishment involving understanding and skill with base-ten units and fractions.
MAFS.5.NBT.1.2:	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
MAFS.5.NBT.1.3:	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.5.NBT.1.4:	Use place value understanding to round decimals to any place.
MAFS.5.NBT.2.5:	Fluently multiply multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** 5.NBT.2.5 Students fluently multiply multi-digit whole numbers using the standard algorithm.
	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations,

	rectangular arrays, and/or area models.
MAFS.5.NBT.2.6:	**Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension from one-digit divisors to two-digit divisors requires care. This is a major milestone along the way to reaching fluency with the standard algorithm in grade 6 (6.NS.2).
MAFS.5.NBT.2.7:	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
MAFS.5.NF.1.1:	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
MAFS.5.NF.1.2:	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they bring together the threads of fraction equivalence (grades 3–5) and addition and subtraction (grades K–4) to fully extend addition and subtraction to fractions.
MAFS.5.NF.2.3:	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
MAFS.5.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product *(a/b) × q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they fully extend multiplication to fractions, making division of fractions in grade 6 (6.NS.1) a near target.
MAFS.5.NF.2.5:	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b = (n×a)/(n×b)* to the effect of multiplying *a/b* by 1.
MAFS.5.NF.2.6:	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MAFS.5.NF.2.7:	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.* b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*
MAFS.5.OA.1.1:	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MAFS.5.OA.1.2:	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*
MAFS.5.OA.2.3:	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*
MAFS.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.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively.** Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.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.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** 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 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.
MAFS.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.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles.

	c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
LAFS.5.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3)Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
http://www.cpalms.org/uploads/docs/standards/eld/MA.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each

grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.5.NBT.1 Understand the place value system.

MAFS.5.NBT.2 Perform operations with multi-digit whole numbers and with decimals to hundredths.

MAFS.5.NF.1 Use equivalent fractions as a strategy to add and subtract fractions.

MAFS.5.NF.2 Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

MAFS.5.MD.3 Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Supporting Clusters

MAFS.5.MD.1 Convert like measurement units within a given measurement system.

MAFS.5.MD.2 Represent and interpret data.

Additional Clusters

MAFS.5.OA.1 Write and interpret numerical expressions.

MAFS.5.OA.2 Analyze patterns and relationships.

MAFS.5.G.1 Graph points on the coordinate plane to solve real-world and mathematical problems.

MAFS.5.G.2 Classify two-dimensional figures into categories based on their properties.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE FIVE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Course Approved

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Elementary Education (Grades K-6)

There are more than 556 related instructional/educational resources available for this on CPALMS. Click on the following link to access them: https://www.cpalms.org?title=2015%20-%202022%20(current)/Public/PreviewCourse/Preview/13037