Grade 1 Mathematics

Version Description

In Grade 1 Mathematics, 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.

All clarifications stated, whether general or specific to Grade 1 Mathematics, are expectations for instruction of that benchmark.

General Notes

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards: This course includes Florida's B.E.S.T. ELA Expectations (EE) and Mathematical Thinking and Reasoning Standards (MTRs) for students. Florida educators should intentionally embed these standards within the content and their instruction as applicable. For guidance on the implementation of the EEs and MTRs, please visit https://www.cpalms.org/Standards/BEST_Standards.aspx and select the appropriate B.E.S.T. Standards package.

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.

General Information

Course Number: 5012030	Course Type: Core Academic Course
Course Length: Year (Y)	Course Level: 2
Course Attributes: Class Size Core Required	Grade Level(s): 1
Course Path: Section | Grades PreK to 12 Education Courses > Grade Group | Grades PreK to 5 Education Courses > Subject | Mathematics > SubSubject | General Mathematics > Abbreviated Title | M/J GRADE ONE MATH	
Educator Certification: Prekindergarten/Primary Education (Age 3 through Grade 3) or Elementary Education (Elementary Grades 1-6) or Primary Education (K-3) or Mathematics (Grades 1-6) or Elementary Education (Grades K-6)	

Course Standards and Benchmarks

Mathematical Thinking and Reasoning

MA.K12.MTR.1.1 Actively participate in effortful learning both individually and collectively.

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.

ELA Expectations

ELA.K12.EE.1.1 Cite evidence to explain and justify reasoning.

ELA.K12.EE.2.1 Read and comprehend grade-level complex texts proficiently.

ELA.K12.EE.3.1 Make inferences to support comprehension.

ELA.K12.EE.4.1 Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.

ELA.K12.EE.5.1 Use the accepted rules governing a specific format to create quality work.

ELA.K12.EE.6.1 Use appropriate voice and tone when speaking or writing.

English Language Development

ELD.K12.ELL.MA Language of Mathematics

ELD.K12.ELL.MA.1	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

Number Sense and Operations

MA.1.NSO.1 Extend counting sequences and understand the place value of two-digit numbers.

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.

Benchmark 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. *Example:* 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. *Example:* The number 37 can be expressed as $3\ tens + 7\ ones$, $2\ tens + 17\ ones$ or as $37\ ones$.

MA.1.NSO.1.4 Plot, order and compare whole numbers up to 100.

Example: The numbers 72, 35 and 58 can be arranged in ascending order as 35, 58 and 72.

Benchmark 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 Develop an understanding of addition and subtraction operations with one- and two-digit numbers.

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.

Benchmark 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.

Example: One less than 40 is 39.
Example: Ten more than 23 is 33.

MA.1.NSO.2.4 Explore the addition of a two-digit number and a one-digit number with sums to 100.

Benchmark 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.

Example: Finding $37 - 6$ is the same as asking "What number added to 6 makes 37?"

Benchmark 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.

Fractions

MA.1.FR.1 Develop an understanding of fractions by partitioning shapes into halves and fourths.

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.

Benchmark Clarifications:
Clarification 1: This benchmark does not require writing the equal sized parts as a fraction with a numerator and denominator.

Algebraic Reasoning

MA.1.AR.1 Solve addition problems with sums between 0 and 20 and subtraction problems using related facts.

MA.1.AR.1.1 Apply properties of addition to find a sum of three or more whole numbers.

Example: $8 + 7 + 2$ is equivalent to $7 + 8 + 2$ which is equivalent to $7 + 10$ which equals 17.

Benchmark 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.

Benchmark 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 Develop an understanding of the relationship between addition and subtraction.

MA.1.AR.2.1 Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction.

Example: The equation $12 - 7 = ?$ can be restated as $7 + ? = 12$ to determine the difference is 5.

Benchmark 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.

Example: Given the following equations,
$8 = 8$, $9 - 1 = 7$, $5 + 2 = 2 + 5$ and $1 = 9 - 8$,
$9 - 1 = 7$ can be determined to be false.

Benchmark 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.

Example: $9 + ? = 12$
Example: $17 = \square + 5$
Example: $? - 4 = 8$

Benchmark 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).

Measurement

MA.1.M.1 Compare and measure the length of objects.

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.

Benchmark 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.

Benchmark 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 Tell time and identify the value of coins and combinations of coins and dollar bills.

MA.1.M.2.1 Using analog and digital clocks, tell and write time in hours and half-hours.

Benchmark 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.

Benchmark 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.

Benchmark 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.

Geometric Reasoning

MA.1.GR.1 Identify and analyze two- and three-dimensional figures based on their defining attributes.

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.

Benchmark 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. *Example:* A hexagon can be decomposed into 6 triangles. *Example:* A semi-circle and a triangle can be composed to create a two-dimensional representation of an ice cream cone.

Benchmark 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.

Data Analysis and Probability

MA.1.DP.1 Collect, represent and interpret data using pictographs and tally marks.

MA.1.DP.1.1	Collect data into categories and represent the results using tally marks or pictographs. *Example:* A class collects data on the number of students whose birthday is in each month of the year and represents it using tally marks.

Benchmark 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.

Benchmark Clarifications:
Clarification 1: Instruction focuses on the connection to addition and subtraction when calculating the total and comparing, respectively.