



Grade 2 Mathematics

Version Description

In Grade 2 Mathematics, 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.

All clarifications stated, whether general or specific to Grade 2 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: 5012040	Course Type: Core Academic Course
Course Length: Year (Y)	Course Level: 2
Course Attributes: Class Size Core Required	Grade Level(s): 2
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 TWO MATH	
Educator Certification: Prekindergarten/Primary Education (Age 3 through Grade 3) or Elementary Education (Elementary Grades 1-6), Primary Education (K-3), Mathematics (Elementary 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.
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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.2.NSO.1 Understand the place value of three-digit numbers.

MA.2.NSO.1.1 Read and write numbers from 0 to 1,000 using standard form, expanded form and word form.

Example: The number four hundred thirteen written in standard form is 413 and in expanded form is $400 + 10 + 3$.

Example: The number seven hundred nine written in standard form is 709 and in expanded form is $700 + 9$.

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.

Example: The number 241 can be expressed as *2 hundreds + 4 tens + 1 one* or as *24 tens + 1 one* or as *241 ones*.

MA.2.NSO.1.3 Plot, order and compare whole numbers up to 1,000.

Example: The numbers 424, 178 and 475 can be arranged in ascending order as 178, 424 and 475.

Benchmark 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.

Example: The number 65 is rounded to 70 when rounded to the nearest 10.

Benchmark 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 Add and subtract two- and three-digit whole numbers.

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.

Example: The number 236 is one hundred more than 136 because both numbers have the same digit in the ones and tens place, but differ in the hundreds place by one.

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.

Example: The sum $41 + 23$ can be found by using a number line and “jumping up” by two tens and then by three ones to “land” at 64.

Example: The difference $87 - 25$ can be found by subtracting 20 from 80 to get 60 and then 5 from 7 to get 2. Then add 60 and 2 to obtain 62.

Benchmark Clarifications:

Clarification 1: Instruction focuses on helping a student choose a method they can use reliably.

MA.2.NSO.2.4 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.

Example: The difference $612 - 17$ can be found by rewriting it as $612 - 12 - 5$ which is equivalent to $600 - 5$ which is equivalent to 595.

Example: The difference $1,000 - 17$ can be found by using a number line and making a “jump” of 10 from 1,000 to 990 and then 7 “jumps” of 1 to 983.

Benchmark 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.



Fractions

MA.2.FR.1 Develop an understanding of fractions.

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.

Benchmark 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.

Example: A square cake can be cut into four equal-sized rectangular pieces or into four equal-sized triangular pieces.

Algebraic Reasoning

MA.2.AR.1 Solve addition problems with sums between 0 and 100 and related subtraction problems.

MA.2.AR.1.1 Solve one- and two-step addition and subtraction real-world problems.

Benchmark 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 Demonstrate an understanding of equality and addition and subtraction.

MA.2.AR.2.1 Determine and explain whether equations involving addition and subtraction are true or false.

Example: The equation $27 + 13 = 26 + 14$ can be determined to be true because 26 is one less than 27 and 14 is one more than 13.

Benchmark 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.

Example: Determine the unknown in the equation $45 + \underline{\quad} = 23 + 46$.

Benchmark 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 Develop an understanding of multiplication.

- 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.

Example: The number 8 is even because it can be represented as two equal groups of 4 or as the expression $4 + 4$.

Example: The number 9 is odd because it can be represented as two equal groups with one left over or as the expression $4 + 4 + 1$.

Benchmark 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.

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- 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.

Benchmark 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.



Measurement

MA.2.M.1 Measure the length of objects and solve problems involving length.

- 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.

Benchmark 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.

Benchmark 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.

Example: Jeff and Larry are making a rope swing. Jeff has a rope that is 48 inches long. Larry's rope is 9 inches shorter than Jeff's. How much rope do they have together to make the rope swing?

Benchmark Clarifications:

Clarification 1: Addition and subtraction problems are limited to sums within 100 and related differences.

MA.2.M.2 Tell time and solve problems involving money.

- 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.

Benchmark 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.

Benchmark 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).

Geometric Reasoning

MA.2.GR.1 Identify and analyze two-dimensional figures and identify lines of symmetry.

- 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.

Benchmark 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.

Benchmark 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.

Example: Fold a rectangular piece of paper and determine whether the fold is a line of symmetry by matching the two halves exactly.

Benchmark 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 Describe perimeter and find the perimeter of polygons.**

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.

Benchmark 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.

Benchmark 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.

Data Analysis and Probability**MA.2.DP.1 Collect, categorize, represent and interpret data using appropriate titles, labels and units.**

MA.2.DP.1.1 Collect, categorize and represent data using tally marks, tables, pictographs or bar graphs. Use appropriate titles, labels and units.

Benchmark 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.

Benchmark 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.