



Grade 2

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.

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.



- 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.
