

Grade 2 Mathematics Scope and Sequence



Overview: In Grade 2, instructional time should focus on four areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction ; (3) using standard units of measure; and (4) analyzing and classifying two dimensional shapes as polygons or non-polygons. Please note that while every standard/topic in the grade level has not been included in this overview, all standards should be included in instruction.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Addition and Subtraction within 20	Place Value and Modeling	Multi-Digit Addition	Multi-Digit Subtraction	Measurement: Length	Measurement: Time and Money	Representing Data	Geometry and Partitioning Models
Sept-Oct (4 Weeks)	Oct - Nov (4 Weeks)	Nov -Dec (6 Weeks)	Jan-Feb (6 Weeks)	Feb-March (5 Weeks)	March - April (4 Weeks)	May (4 Weeks)	May-June (4 Weeks)
<p>Operations and Algebraic Thinking. Represent and solve problems involving addition and subtraction.</p> <p>NY-2.OA.1ab</p> <p>Operations and Algebraic Thinking. Add and subtract within 20.</p> <p>NY-2.OA.2ab</p>	<p>Number and Operations in Base Ten. Understand place value.</p> <p>NY-2.NBT.1 NY-2.NBT.2 NY-2.NBT.3 NY-2.NBT.4</p>	<p>Numbers and Operations in Base Ten. Use place value understanding and properties of operations to add and subtract.</p> <p>NY-2.NBT.5 NY-2.NBT.6 NY-2.NBT.7ab NY-2.NBT.8 NY-2.NBT.9</p> <p>Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.</p> <p>NY-2.OA.3ab</p>	<p>Numbers and Operations in Base Ten. Use place value understanding and properties of operations to add and subtract.</p> <p>NY-2.NBT.5 NY-2.NBT.7ab NY-2.NBT.8 NY-2.NBT.9</p>	<p>Measurement and Data. Measure and estimate lengths in standard units.</p> <p>NY-2.MD.1 NY-2.MD.2 NY-2.MD.3 NY-2.MD.4</p> <p>Measurement and Data. Relate addition and subtraction to length.</p> <p>NY-2.MD.5 NY-2.MD.6</p> <p>Measurement and Data. Represent and interpret data.</p> <p>NY-2.MD.9</p>	<p>Measurement and Data. Work with time and money.</p> <p>NY-2.MD.7 NY-2.MD.8ab</p>	<p>Measurement and Data. Represent and interpret data.</p> <p>NY-2.MD.9 NY-2.MD.10</p> <p>Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.</p> <p>NY-2.OA.4</p>	<p>Geometry. Reason with shapes and their attributes.</p> <p>NY-2.G.1 NY-2.G.2 NY-2.G.3</p> <p>Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.</p> <p>NY-2.OA.4</p>

Grade 2 Mathematics Standards by Unit



Unit Title	Focus Standards
1 Addition and Subtraction within 20	<p>Operations and Algebraic Thinking. Represent and solve problems involving addition and subtraction.</p> <p>NY-2.OA.1a. Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p> <p>NY-2.OA.1b. Use addition and subtraction within 100 to develop an understanding of solving two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p> <p>Operations and Algebraic Thinking. Add and subtract within 20.</p> <p>NY-2.OA.2a. Fluently add and subtract within 20 using mental strategies. Strategies could include:</p> <ul style="list-style-type: none">• Counting on;• Making ten;• Decomposing a number leading to a ten;• Using the relationship between addition and subtraction; and• Creating equivalent but easier or known sums. <p>NY-2.OA.2b. Know from memory all sums within 20 of two one-digit numbers.</p>
2 Place Value and Modeling	<p>Number and Operations in Base Ten. Understand place value.</p> <p>NY-2.NBT.1. Understand that the digits of a three-digit number represent amounts of hundreds, tens, and ones.</p> <ol style="list-style-type: none">Understand 100 can be thought of as a bundle of ten tens, called a "hundred."Understand the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). <p>NY-2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>NY-2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p> <p>NY-2.NBT.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>
3 Multi-Digit Addition	<p>Number and Operations in Base Ten. Use place value understanding and properties of operations to add and subtract.</p> <p>NY-2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p>NY-2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p>

NY-2.NBT.7a. Add and subtract within 1000, 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 representation. Note: A written representation is any way of showing a strategy using words, pictures, or numbers.

NY-2.NBT.7b. Understand that in adding or subtracting up to three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, and ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds.

NY-2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100– 900.

NY-2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations. Note: Explanations may be supported by drawings or objects.

Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.

NY-2.OA.3a. Determine whether a group of objects (up to 20) has an odd or even number of members.

NY-2.OA.3b. Write an equation to express an even number as a sum of two equal addends.

Number and Operations in Base Ten. Use place value understanding and properties of operations to add and subtract.

NY-2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

NY-2.NBT.7a. Add and subtract within 1000, 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 representation. Note: A written representation is any way of showing a strategy using words, pictures, or numbers.

NY-2.NBT.7b. Understand that in adding or subtracting up to three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, and ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds.

NY-2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100– 900.

NY-2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations. Note: Explanations may be supported by drawings or objects.

Measurement and Data. Measure and estimate lengths in standard units.

NY-2.MD.1. Measure the length of an object to the nearest whole by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

NY-2.MD.2. Measure the length of an object twice, using different "length units" for the two measurements; describe how the two measurements relate to the size of the unit chosen.

NY-2.MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.

NY-2.MD.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard "length unit."

Measurement and Data. Relate addition and subtraction to length.

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Multi-Step Subtraction

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Measurement: Length

NY-2.MD.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.

NY-2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line.

Measurement and Data. Represent and interpret data.

NY-2.MD.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Present the measurement data in a line plot, where the horizontal scale is marked off in whole-number units.

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Measurement: Time and Money

Measurement and Data. Work with time and money.

NY-2.MD.7. Tell and write time from analog and digital clocks in five minute increments, using a.m. and p.m. Develop an understanding of common terms, such as, but not limited to, *quarter past*, *half past*, and *quarter to*.

NY-2.MD.8a. Count a mixed collection of coins whose sum is less than or equal to one dollar.

NY-2.MD.8b. Solve real world and mathematical problems within one dollar involving quarters, dimes, nickels, and pennies, using the ¢ (cent) symbol appropriately.

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Representing Data

Measurement and Data. Represent and interpret data.

NY-2.MD.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Present the measurement data in a line plot, where the horizontal scale is marked off in whole-number units.

NY-2.MD.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a picture graph or a bar graph.

Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.

NY-2.OA.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns. Write an equation to express the total as a sum of equal addends.

8

Geometry and Partitioning Models

Geometry. Reason with shapes and their attributes.

NY-2.G.1. Classify two-dimensional figures as polygons or non-polygons.

NY-2.G.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

NY-2.G.3. Partition circles and rectangles into two, three, or four equal shares. Describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc. Describe the whole as *two halves*, *three thirds*, *four fourths*. Recognize that equal shares of identical wholes need not have the same shape.

Operations and Algebraic Thinking. Work with equal groups of objects to gain foundations for multiplication.

NY-2.OA.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns. Write an equation to express the total as a sum of equal addends.