

Sample Scope and Sequence for Grade 2 for the Common Core State Standards for Mathematics

In the two years prior to Grade 2, students have gained an understanding of whole numbers to 120, begun to develop strategies for addition and subtraction, worked with non-standard measurement, and reasoned about attributes. Students are fluent adding and subtracting within 10. Students have an initial understanding of place value of two-digit numbers.

In grade 2, students apply the strategies for addition and subtraction they developed in earlier grades to larger numbers. They acquire calculation fluency in addition and subtraction within 100, and mental fluency in addition and subtraction within 20. They learn to use standard units of measure, and they continue to compose and decompose shapes with a new focus on examining sides and angles.

This scope and sequence assumes 160 days for instruction, divided among 18 units.

Throughout Grade 2, students should continue to develop proficiency with the Common Core's eight Standards for Mathematical Practice:

- 1. Make sense of problems and persevere in solving them.**
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**
- 5. Use appropriate tools strategically.**
- 6. Attend to precision.**
- 7. Look for and make use of structure.**
- 8. Look for and express regularity in repeated reasoning.**

These practices should become the natural way in which students come to understand and to do mathematics. While, depending on the content to be understood or on the problem to be solved, any practice might be brought to bear, some practices may prove more useful than others. Opportunities for highlighting certain practices are indicated in different units of study in this sample scope and sequence, but this highlighting should not be interpreted to mean that other practices should be neglected in those units.

This scope and sequence reflects our current thinking related to the intent of the CCSS for Mathematics, but it is an evolving document. We expect to make refinements to this scope and sequence in the coming months in response to new learnings about the standards. In planning your district's instructional program, you should be prepared to have similar flexibility in implementing your district's own scope and sequence for the next 2 to 3 year, as you transition from your state's current standards to full implementation of the CCSS for Mathematics.

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
Relating addition and subtraction	<p>2.OA.1 (Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹) [Comment] ¹See Glossary, Table 1.</p>	<ol style="list-style-type: none"> 1. <u>Make sense of problems and persevere in solving them.</u> 2. <u>Reason abstractly and quantitatively.</u> 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	6	<p>2.OA.1 In this unit students reinforce understandings and strategies from prior grades as they use addition and subtraction to solve one-step problems involving larger numbers.</p>

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
Using strategies for addition	<p>2.OA.1 [Comment] 2.OA.2 (Fluently add and subtract within 20 using mental strategies.² By end of Grade 2, know from memory all sums of two one-digit numbers.) [Comment] ²See standard 1.OA.6 for a list of mental strategies. 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.) [Comment] 2.NBT.9 (Explain why addition and subtraction strategies work, using place value and the properties of operations.³) [Comment] ³Explanations may be supported by drawings or objects.</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. <u>Model with mathematics.</u> 5. Use appropriate tools strategically. 6. Attend to precision. 7. <u>Look for and make use of structure.</u> 8. Look for and express regularity in repeated reasoning. 	8	<p>2.OA.1 In this unit students solve addition problems involving situations of adding to and putting together by using drawings and equations. 2.OA.2 Fluency with addition within 20 using mental strategies. 2.NBT.5, 2.NBT.9 Focus on addition strategies based on properties of operations.</p>
Using strategies for subtraction	<p>2.OA.1 [Comment] 2.OA.2 [Comment] 2.NBT.5 [Comment] 2.NBT.9 [Comment]</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. <u>Reason abstractly and quantitatively.</u> 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. <u>Look for and express regularity in repeated reasoning.</u> 	8	<p>2.OA.1 Focus on one-step subtraction problems in a variety of situations. 2.OA.2 Fluency with addition and subtraction within 20 using mental strategies. 2.NBT.5, 2.NBT.9 Focus on addition strategies based on properties of operations and the relationship between addition and subtraction.</p>

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<p>Using place value to 100</p>	<p>2.OA.3 (Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.)</p> <p>2.NBT.1 (Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a “hundred.”)</p> <p>2.NBT.3(Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.) [Comment]</p> <p>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.) [Comment]</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. <u>Reason abstractly and quantitatively.</u> 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. <u>Look for and make use of structure.</u> 8. Look for and express regularity in repeated reasoning. 	<p>10</p>	<p>2.NBT.3, 2.NBT.4 Students compare numbers based on meanings of tens and ones.</p>
<p>Measuring time</p>	<p>2.MD.7 (Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.)</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. <u>Use appropriate tools strategically.</u> 6. <u>Attend to precision.</u> 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>8</p>	

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
<p>Solving problems involving money</p>	<p>2.MD.8 (Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>)</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>11</p>	<p>This is the first time money is introduced in the CCSS.</p>
<p>Exploring customary measurement</p>	<p>2.MD.1 (Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.) [Comment]</p> <p>2.MD.3 (Estimate lengths using units of inches, feet, centimeters, and meters.) [Comment]</p> <p>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.)</p> <p>2.MD.5 (Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.)</p> <p>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 diagram.)</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>9</p>	<p>2.MD.1, 2.MD.3 Only customary measurement is introduced in this unit.</p>

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
<p>Using mental addition to add two 2-digit numbers</p>	<p>2.OA.1 2.NBT.5 [Comment] 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.) [Comment] 2.NBT.9</p>	<p>1. <u>Make sense of problems and persevere in solving them.</u> 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. <u>Look for and express regularity in repeated reasoning.</u></p>	<p>10</p>	<p>2.NBT.5 Fluency adding within 100 is not expected at this time. 2.NBT.8 Students will mentally add and subtract 10 from a given two-digit number.</p>
<p>Using mental subtraction of two-digit numbers less than 100</p>	<p>2.NBT.5 2.NBT.8 2.NBT.9</p>	<p>1. <u>Make sense of problems and persevere in solving them.</u> 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. <u>Look for and express regularity in repeated reasoning.</u></p>	<p>10</p>	<p>Fluency within 100 is not expected at this time. Students will mentally add and subtract 10 from a given two-digit number.</p>

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
Adding whole numbers	<p>2.OA.1</p> <p>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.)</p> <p>2.G.2 (Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.)</p> <p>2.NBT.6 (Add up to four two-digit numbers using strategies based on place value and properties of operations.)</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. <u>Construct viable arguments and critique the reasoning of others.</u> 4. Model with mathematics. 5. <u>Use appropriate tools strategically.</u> 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	10	

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
Subtracting whole numbers with regrouping	2.OA.1 2.NBT.5 [Comment] 2.NBT.9	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. <u>Construct viable arguments and critique the reasoning of others.</u> 4. Model with mathematics. 5. <u>Use appropriate tools strategically.</u> 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	10	2.NBT. 5 At this time students should become fluent adding and subtracting within 100.
Exploring 2-D and 3-D geometry	2.G.1 (Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. ⁵ Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.) <small>⁵Sizes are compared directly or visually, not compared by measuring.</small>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. <u>Attend to precision.</u> 7. <u>Look for and make use of structure.</u> 8. Look for and express regularity in repeated reasoning. 	10	

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Exploring equal shares	2.G.3 (Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.)	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. <u>Model with mathematics.</u> 5. Use appropriate tools strategically. 6. <u>Attend to precision.</u> 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	10	
Using addition and subtraction strategies to solve two-digit problems	2.OA.2 2.NBT.5	<ol style="list-style-type: none"> 1. <u>Make sense of problems and persevere in solving them.</u> 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. <u>Look for and express regularity in repeated reasoning.</u> 	8	

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
Using data in graphs	<p>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 problems⁶ using information presented in a bar graph.) ⁶See Glossary, Table 1.</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. <u>Reason abstractly and quantitatively.</u> 3. Construct viable arguments and critique the reasoning of others. 4. <u>Model with mathematics.</u> 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	8	
Estimating and measuring length	<p>2.MD.1 2.MD.2 (Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.) 2.MD.3 2.MD.4 2.MD.5 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. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.)</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. <u>Use appropriate tools strategically.</u> 6. <u>Attend to precision.</u> 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	8	

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Unit	Standards for Mathematical Content	Standards for Mathematical Practice	Days	Comments
<p>Using place value and patterns with numbers to 1,000</p>	<p>2.NBT.1 (Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a “hundred.” b. 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).) 2.NBT.2 (Count within 1000; skip-count by 5s, 10s, and 100s.) 2.NBT.3 2.NBT.4</p>	<p>1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. <u>Attend to precision.</u> 7. <u>Look for and make use of structure.</u> 8. Look for and express regularity in repeated reasoning.</p>	8	
<p>Using strategies to add and subtract three-digit numbers</p>	<p>2.NBT.7 (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 method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.) 2.NBT.8</p>	<p>1. <u>Make sense of problems and persevere in solving them.</u> 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. <u>Look for and express regularity in repeated reasoning.</u></p>	8	