

# SECOND GRADE CURRICULUM MAP

## MATHEMATICS

OFFICE OF CURRICULUM AND INSTRUCTION



**To:** Second Grade Teachers  
**From:** Jodi Albers  
**Date:** July 19, 2017  
**Re:** Second Grade Math Expressions Curriculum Map

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Dear Teachers,

This is a draft of the Math Expressions curriculum map that correlates the Common Core State Standards in Mathematics. Please note: this is a draft. Your suggestions and feedback should be given to your Math Expressions Lead Teacher so appropriate changes can be made.

This document is divided into the following sections:

- Instructional Focus
- Mathematical Practices
- Scope and Sequence
- Curriculum Map

### Instructional Focus

This summary provides a brief description of the critical areas of focus, required fluency for the grade level, major emphasis clusters, and examples of major within-grade dependencies.

The Common Core State Standards for Mathematics begin each grade level from kindergarten through eighth grade with a narrative explaining the Critical Areas for that grade level. The Critical Areas are designed to bring focus to the standards by outlining the essential mathematical ideas for each grade level.

### Mathematical Practices

The Common Core State Standards for Mathematics define what students should understand and be able to do in their study of mathematics. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. The Standards for Mathematical Practice are included first in this document because of their importance and influence in teaching practice.

### Scope and Sequence

This table provides the unit sequence and pacing for Math Expressions.

### Curriculum Map - By Unit

The curriculum map provides the alignment of the grade level Math Expressions units with state-adopted standards as well as unit specific key elements such as learning progressions, essential questions learning targets, and formative assessments.

A special thank you to the Second Grade Math Expressions Lead Teachers who created these documents for the Red Clay Consolidated School District.

Sincerely,  
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# 2017 - 2018 Math Expressions Lead Teachers

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## Kindergarten Team

Michelle Finegan, Richardson Park Elementary School  
Jackie Gallagher, Highlands Elementary School  
Christine Saggese, Cooke Elementary School  
Beth Ann Turner, Forest Oak Elementary School

## First Grade Team

Samantha Ches, Shortlidge Academy  
Sara Edler, Marbrook Elementary School  
Brandy Wilkins, Lewis Dual Language Elementary School

## Second Grade Team

Gabriele Adiarte, Mote Elementary School  
Sherri Brooks, Richey Elementary School  
Stephanie Fleetwood, Linden Hill Elementary School

## Third Grade Team

Sarah Bloom, Brandywine Springs Elementary School  
Karen Cooper, North Star Elementary School  
Kathleen Gormley, Highlands Elementary School  
Kathryn Hudson, Cooke Elementary School  
Amy Starke, Heritage Elementary School

## Fourth Grade Team

Amber Tos, Baltz Elementary School

## Fifth Grade Team

Jennifer Greevy, Forest Oak Elementary School  
Erin McGinnley, Warner Elementary School  
Stacie Zdrojewski, Richey Elementary School

# Instructional Focus

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In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

1. Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).
2. Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.
3. Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.
4. Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

## Key Areas of Focus for K-2:

Addition and subtraction—concepts, skills, and problem solving

### Required Fluency:

- 2.OA.2 Add and subtract within 20.
- 2.NBT.5 Add and subtract within 100.

### Major Emphases Clusters:

#### Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.

#### Number and Operations in Base Ten

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

#### Measurement and Data

- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.

# Standards for Mathematical Practices

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The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

## Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction. The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. In this respect, those content standards which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

## Standards for Mathematical Practice

### 1. Make sense of problems and persevere in solving them

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain

correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

## 2. Reason abstractly and quantitatively

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

## 3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

## 4. Model with mathematics

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

## 5. Use appropriate tools strategically

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

## 6. Attend to precision

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

## 7. Look for and make use of structure

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well-remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

## 8. Look for and express regularity in repeated reasoning

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

# Scope and Sequence

Date	Unit	Days
<b>August 29-31</b>	<b>Beginning of Year Pretest/MI</b>	2
<b>September 5 – October 23</b>	<b>Unit 1</b>	33
	Big Idea 1: Strategies for Addition and Subtraction (Lessons 1-9)	12
	Big Idea 2: Addition and Subtraction Situations (Lessons 10-16)	12
<b>October 10</b>	<b>Quick Quiz 2</b>	
	Big Idea 3: More Complex Situations (Lessons 17-21)	7
	Unit Review/Test	2
<b>October 24 – December 13</b>	<b>Unit 2</b>	28
	Big Idea 1: Use Place Value (Lessons 1-5)	7
<b>November 6</b>	<b>Quick Quiz 1</b>	
	Big Idea 2: Add 2-Digit Numbers (Lessons 6-10)	8
<b>November 17</b>	<b>Quick Quiz 2</b>	
	Big Idea 3: Money and Fluency for Addition Within 100 (Lessons 11-15)	11
<b>December 13</b>	<b>Unit Review/Test</b>	2
<b>December 14 – January 11</b>	<b>Unit 3</b>	13
	Big Idea 1: Length and Shapes (Lessons 1-5)	6
	Big Idea 2: Estimate, Measure, and Make Line Plots (Lessons 6-9)	5
	Unit Review/Test	2
<b>January 12 – March 6</b>	<b>Unit 4</b>	34
	Big Idea 1: Totals of Mixed Coins and Bills (Lessons 1-2)	5
	Big Idea 2: Multi-digit Subtraction Strategies (Lessons 3-11)	12
<b>February 7</b>	<b>Quick Quiz 2</b>	
	Big Idea 3: Word Problems: Addition and Subtraction within 100 (Lessons 12-23)	15
<b>March 6</b>	<b>Unit Review/Test</b>	2
<b>March 7 – March 27</b>	<b>Unit 5</b>	15
	Big Idea 1: Time (Lessons 1-2)	4
<b>March 12</b>	<b>Quick Quiz 1</b>	
	Big Idea 2: Picture Graphs (Lessons 3-4)	3
	Big Idea 3: Bar Graphs (Lessons 5-10)	7
	Unit Review/Test	1
<b>March 28 – May 4</b>	<b>Unit 6</b>	21
	Big Idea 1: Understanding Numbers to 1,000 (Lessons 1-5)	6
	Big Idea 2: Adding to 1,000 (Lessons 6-8)	4
<b>April 18</b>	<b>Quick Quiz 2</b>	
	Big Idea 3: 3-Digit Subtraction (Lessons 9-12)	5
	Big Idea 4: 3-Digit Addition and Subtraction (Lessons 13-15)	4
	Unit Review/Test	2
<b>May 7 – May 24</b>	<b>Unit 7</b>	14



	Big Idea 1: Arrays and Equal Shares (Lessons 1-2)	4
<b>May 10</b>	<b>Quick Quiz 1</b>	
	Big Idea 2: Relate Addition and Subtraction to Length (Lessons 3-6)	8
	Unit Review/Test	2
<b>May 29</b>	<b>End of Year Posttest</b>	2
	<b>Total Days</b>	<b>162</b>

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# Unit 1: Addition and Subtraction Within 20

September 5-October 23

Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>• used Level 2 (counting on) and Level 3 (convert to an Easier Problem) methods for addition and subtraction.</li> <li>• worked with all addition and subtraction problem subtypes but need not master these four.                             <ul style="list-style-type: none"> <li>- <i>Add to</i> (Start Unknown)</li> <li>- <i>Take from</i> (Start Unknown)</li> <li>- <i>Compare with Bigger Unknown</i> using “fewer language”</li> <li>- <i>Compare with Smaller Unknown</i> using “more language”</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• become fluent in single digit additions and the related subtractions using the mental level 2 and level 3 strategies as needed.*</li> <li>• master all addition and subtraction problem subtypes and solve one step and two step problems.</li> </ul> <p>*To learn more about math levels go to 1GG</p>	<ul style="list-style-type: none"> <li>• solve two-step problems involving all four operations.</li> </ul>

## Unit 1: Common Core State Standards

*Content*

CC.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 a problem.

CC.2.OA.2: Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.

CC.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.

CC.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.

CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.
CC.2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.
<i>Practice</i>
<p><b>MP.1: Make sense of the problem.</b>  <b>MP.2:</b> Reason abstractly and quantitatively.  <b>MP.3: Critique the reasoning of others.</b>  <b>MP.4:</b> Model with mathematics.  <b>MP.5:</b> Use appropriate tools.  <b>MP.6: Attend to precision.</b>  <b>MP.7:</b> Look for and make use of structure.  <b>MP.8:</b> Use repeated reasoning.</p>
<b>Beginning of Year Pre-test (August 29)</b>
<p><b>Unit 1: Big Idea 1: Strategies for Addition and Subtraction (Lessons 1-9)</b>                      Number of days: 12</p>
Daily Routine: Using the 120 Poster (see p. xxxi), Using Secret Code Cards (see p. xxxiii), Money Routine (see p. xxxi), Using the Number Path (see p. xxxii)
<p>Quick Practice:                      Lessons 1-4: The Teen Machine                      Lessons 5-7: Unknown Addend                      Lessons 8-10: Stay or Go?</p>
<p><b>Vocabulary:</b>                      equation, math mountain, partners, addends, total, dime, penny, make a ten strategy, unknown addend, pairs, pattern, odd, even, addition doubles, equal sign, is equal to, is not equal to, equation chain, vertical form</p>
<b>Essential Questions:</b> What are different strategies for addition and subtraction?

**Learning Targets:**

Lesson 1:

- Review the relationship between addition and subtraction equations, Math Mountains, and word problems.

Lesson 2:

- Find teen Math Mountains and relate to addition problems with two unknown addends.
- Practice addition and subtraction with totals less than or equal to 10.

Lesson 3:

- Use the Make-a-Ten strategy to add single-digit addends.

Lesson 4:

- Make a ten to solve unknown addend and subtraction word problems.

Lesson 5:

- Practice solving addition, subtraction, and unknown addend equations with teen totals.

Lesson 6:

- Identify numbers as odd or even.

Lesson 7:

- Find totals using the Doubles Plus/Minus 1 or the Doubles Plus/Minus 2.

Lesson 8:

- Write equations and equation chains and use vertical form for addition and subtraction.

Lesson 9:

- Add three or four 1-digit addends using strategies based on properties of addition.

**Assessments:**

After Lesson 9, give Quick Quiz 1 and Fluency Check 1 (September 20).

**Unit 1: Big Idea 2: Addition and Subtraction Situations (Lessons 10-16)**

Number of days: 12

**Daily Routine:** Using the 120 Poster (see p. xxxi), Using Secret Code Cards (see p. xxxiii), Money Routine (see p. xxxi), Using the Number Path (see p. xxxii)

**Quick Practice:**

Lessons 8-10: Stay or Go?

Lessons 11-13: Equation Chains

Lesson 14-16: Count by 2s

**Vocabulary:**

add two problem, take from problem, situation equation, solution equation, put together/take apart problem, compare word problem, matching drawing, comparison bars, more, fewer

**Essential Questions:** How do we solve different addition and subtraction situations?

**Learning Targets:**

Lesson 10:

- Represent and solve Add To and Take From word problems.

Lesson 11:

- Create and solve Add To and Take From word problems - unknown in all six positions.

Lesson 12:

- Introduce and solve Put Together/Take Apart problems.

Lesson 13:

- Solve Put Together/Take Apart problems that involve the use of group names and/or have both addends unknown.

Lesson 14:

- Represent and solve Compare word problems.

Lesson 15:

- Create, paraphrase, and solve Compare word problems.

Lesson 16:

- Solve mixed word problems and use make-a-ten strategy to find totals.

**Assessments:**

After Lesson 16, give **Quick Quiz 2 (October 10)** and Fluency Check 2.

**Unit 1: Big Idea 3: More Complex Situations (Lessons 17-21)**

Number of days: 7

**Daily Routine:** Using the 120 Poster (see p. xxxi), Using Secret Code Cards (see p. xxxiii), Money Routine (see p. xxxi), Using the Number Path (see p. xxxii)

**Quick Practice:**

Lesson 17-19: Blue Math Mountain Cards

Lesson 20: Dive the Deep

**Vocabulary:**

extra information, hidden information, pattern

**Essential Questions:** How do we solve more complex addition and subtraction situations?

**Learning Targets:**

Lesson 17:

- Discuss and solve problems with hidden, not enough, or extra information.

Lesson 18:

- Represent and solve more complex Compare problems.

Lesson 19:

- Solve two-step word problems.

Lesson 20:

- Solve mixed word problems.

Lesson 21:

- Use the Common Core Content Standards and Practices in a variety of real world problem

solving situations.

**Assessments:**

After Lesson 21, give Quick Quiz 3 and Fluency Check 3(October 19).

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# Unit 2: Addition Within 200

October 24-December 13

## Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>composed and decomposed numbers as tens and ones.</li> <li>learned patterns involved in saying teen numbers and decade numbers.</li> <li>computed sums within 100 with understanding.</li> </ul>	<ul style="list-style-type: none"> <li>extend base-ten understanding to hundreds.</li> <li>compute sums within 1000 using place value and the Commutative and Associative Properties of Addition.</li> <li>become fluent with addition within 100.</li> </ul>	<ul style="list-style-type: none"> <li>use place value understanding to round numbers to the nearest 10 or 100.</li> <li>build or maintain fluency for addition within 1000.</li> </ul>

## Unit 2: Common Core State Standards

### Content

CC.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.

CC.2.OA.2: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

CC.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.

CC.2.NBT.1a: 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 a special case: 100 can be thought of as a bundle of ten tens – called a “hundred.”

CC.2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.

CC.2.NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

CC.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.

CC.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.

CC.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.

CC.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.

CC.2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.

CC.2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

*Practices*

**MP.1** Make sense of problems and persevere in solving them.

**MP.2** Reason abstractly and quantitatively.

**MP.3** Construct viable arguments and critique the reasoning of others.

**MP.4** Model with mathematics.

**MP.5** Use appropriate tools strategically.

**MP.6** Attend to precision.

**MP.7** Look for and make use of structure.

**MP.8** Look for and express regularity in repeated reasoning.

**Unit 2: Big Idea 1: Use Place Value (Lessons 1-5)**

Number of days: 7

**Daily Routines:** Money Routines (see p. xxxi) and Comparing 2-Digit Numbers (see p. xxxiii)

**Quick Practice:**

Lessons 1-3: Count by Tens to 120 & Dive the Deep

Lessons 4-5: Tens Talking & Count by 10s to 120

**Vocabulary:** ones, tens, hundreds, decade numbers, Quick tens, expanded form, Quick Hundreds, number name, is less than, is greater than, is equal to (=)

**Essential Questions:** How do we use addition within 200?

**Learning Targets:**

Lesson 1:

- Represent numbers to 200 and identify patterns involving place value.

Lesson 2:

- Represent numbers to 200 in different ways.

Lesson 3:

- Represent numbers using base ten numerals, expanded form, and number names.

Lesson 4:

- Solve ten-based word problems.
- Add 10 or 100 to a given number.

Lesson 5:

Compare two numbers using >, <, or = symbols.

**Assessments:**

After lesson 5, give **Quick Quiz 1 (November 6)** and Fluency Check 4

**Unit 2: Big Idea 2: Add 2-Digit Numbers (Lessons 6-10)**

Number of days: 8

**Daily Routine:** Money Routines (see p. xxxi) and Comparing 2-Digit Numbers (see p. xxxiii)

**Quick Practice:**



Lesson 6: Tens Talking & Count by 10s to 120  
 Lessons 7-9: Unscramble the Hundreds, Tens, and Ones & Tens Talking  
 Lesson 10: Count by Tens from 130 to 240 & Unscramble the Hundreds, Tens, and Ones

**Vocabulary:** New Groups Above method, New Groups Below method, Show All Totals method, sum, error

**Essential Questions:** How can we use different methods to add 2-digit numbers?

**Learning Targets:**

Lesson 6:

- Explore methods of 2-digit addition that involve making a new ten or hundred.

Lesson 7:

- Apply addition concepts and strategies to real world situations, and solve 2-digit addition word problems.

Lesson 8:

- Solve 2-digit addition exercises using the New Groups Below Method.

Lesson 9:

- Choose a method to solve 2-digit addition exercises.

Lesson 10:

Compare various solution methods for 2-digit addition.

**Assessments:**

After lesson 5, give **Quick Quiz 2 (November 17)** and Fluency Check 5.

### Unit 3: Big Idea 3: Money and Fluency for Addition Within 100 (Lessons 11-15)

Number of days: 11

Daily Routine: Money Routines (see p. xxxi) and Comparing 2-Digit Numbers (see p. xxxiii)

**Quick Practice:**

Lesson 11-12: Count by Tens from 130 to 240, Unscramble the Hundreds, Tens, and Ones

**Lessons 13-15: Trios & Count by Tens from 130 to 240**

**Vocabulary:** penny, dime, dollar, cent symbol ¢, dollar symbol \$, decimal point, nickel, skip count

**Essential Questions:** How can we relate money and build fluency for addition within 100?

**Learning Targets:**

Lesson 11:

- Solve word problems involving dollar bills, dimes, and pennies, using \$ and ¢.

Lesson 12:

- Skip count by 5s and find the values of collection of dimes, nickels, and pennies.

Lesson 13:

- Build fluency for addition within 100.

Lesson 14:

- Add three or four 2-digit addends.

Lesson 15:

Use the Common Core Content Standards and Practices in a variety of real world problem solving situations.

**Assessments:**

After Lesson 15, give Quick Quiz 3 and Fluency Check 6.

At the end of Unit 2, give **Unit 2 Test (December 13)**

DRAFT

# Unit 3: Length and Shapes

December 14-January 11

Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>measured lengths using iteration.</li> <li>ordered objects by length.</li> <li>compared the length of two objects to a third object.</li> <li>composed 2- and 3-dimensional shapes.</li> </ul>	<ul style="list-style-type: none"> <li>measure and estimate lengths.</li> <li>relate addition and subtraction to length.</li> <li>represent lengths on line plots.</li> <li>reason with shapes and their attributes.</li> </ul>	<ul style="list-style-type: none"> <li>use rulers with halves and fourths of an inch to measure lengths.</li> <li>pose questions about data presented in line plots.</li> <li>sort shapes into categories based on attributes.</li> </ul>

## Unit 3: Common Core State Standards

*Content*

CC.2.OA.2: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.

CC.2.MD.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CC.2.MD.3: Estimate lengths using units of inches, feet, centimeters, and meters.

CC.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.

CC.2.G.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

*Practices*

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

### Unit 3: Big Idea 1: Length and Shapes (Lessons 1-5)

Number of days: 6

**Daily Routine:** Dimes, Nickels, and Pennies (see p. xxxiv), Money Routine (see p. xxxi)

**Quick Practice:**

Lessons 1-4: Dive the Deep

Lessons 5-9: Even or Odd and Quick Check

**Vocabulary:** length, centimeter, line segment, horizontal, vertical, partner lengths, angle, right angle, square, rectangle, triangle, quadrilateral, width, height, 2-dimensional, 3-dimensional, prism, face, view, cube

**Essential Questions:** How can we understand length and shapes?

**Learning Targets:**

Lesson 1:

- Measure line segments. Break apart centimeter lengths into

Lesson 2:

- Describe properties of squares, rectangles, triangles, pentagons

Lesson 3:

- Estimate and measure the sides and the distances around squares.

Lesson 4:

- Draw and name shapes with 3,4,5 or 6 angles and estimate and measure sides of triangles.

Lesson 5:

- Understand how 2-dimensional and 3-dimensional shapes are related, and draw rectangular prisms and cubes using faces.

**Assessments:**

After Lesson 5, give Quick Quiz 1 and Fluency Check 7 (December 21).

### Unit 3: Big Idea 2: Estimate, Measure, and Make Line Plots (Lessons 6-9)

Number of days: 5

**Daily Routine:** Dimes, Nickels, and Pennies (see p. xxxiv), Money Routines (see p. xxxi)

**Quick Practice:**

Lessons 5-9: Even or Odd and Quick Check

**Vocabulary:** meter, centimeter, decimeter, line plot, inch, yard, foot,

**Essential Questions:** How can estimate, measure, and make line plots?

**Learning Targets:**

Lesson 6:

- Estimate and measure with centimeters and use a line plot to display measurement data.

Lesson 7:

- Estimate and measure with inches, feet, and yards. Show measurement data on a line plot.

Lesson 8:

- Measure length and show the data on a line plot. Determine the relationship between length and the size of the measurement unit.

Lesson 9:

- Use the Common Core Content Standards and Practices in a variety of real world problem solving situations.

**Assessments:**

After Lesson 9, give Quick Quiz 2 and Fluency Check 8 (January 9).

# Unit 4: Subtract 2-Digit Numbers

January 12-March 6

## Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>decomposed numbers written in base ten notation into base ten units.</li> <li>subtracted multiples of 10.</li> </ul>	<ul style="list-style-type: none"> <li>compute differences within 1000 using place value and the relationship between addition and subtraction.</li> <li>become fluent with subtraction within 100.</li> </ul>	<ul style="list-style-type: none"> <li>build or maintain fluency for subtraction within 1000.</li> </ul>

## Unit 4 Common Core State Standards

### Content

**CC.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.

**CC.2.OA.2:** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

**CC.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.

**CC.2.NBT.1a:** 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 a special case: 100 can be thought of as a bundle of ten tens – called a “hundred.”

**CC.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.

**CC.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.

**CC.2.NBT.6:** Add up to four two-digit numbers using strategies based on place value and properties of operations.

**CC.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.

**CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations.

**CC.2.MD.1:** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

**CC.2.MD.3:** Estimate lengths using units of inches, feet, centimeters, and meters.

**CC.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.

**CC.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.

**CC.2.MD.8:** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

#### *Practices*

**MP.1:** Make sense of problems and persevere in solving them.

**MP.2:** Reason abstractly and quantitatively.

**MP.3:** Construct viable arguments and critique the reasoning of others.

MP.4: Model with math.

MP.5: Use appropriate tools strategically.

**MP.6:** Attend to precision.

MP.7: Look for and make use of structure.

MP.8: Look for and express regularity in repeated reasoning.

### **Unit 4: Big Idea 1: Totals of Mixed Coins and Bills (Lessons 1-2)**

**Number of days:** 5

**Daily Routine:** Estimating Units of Length (see pg. xxxiii) Money Routine (see p. xxxi)

#### **Quick Practice:**

Lesson 1: Make-a-Ten Cards: Addition

Lesson 2: Make-a-Ten Cards: Subtraction

**Vocabulary:** quarter count on, break apart, ungroup, expanded method, ungroup first method, difference

**Essential Questions:** How can we find the total of mixed coins and bills?

#### **Learning Targets:**

Lesson 1:

- Count by quarters, dimes, nickels, and pennies up to different totals.

Lesson 2:

- Find the value of a collection of dollars bills, quarters, dimes, nickels, and pennies.

#### **Assessments:**

After Lesson 2, give Quick Quiz 1 and Fluency Check 9 (January 19).

### **Unit 4: Big Idea 2: Multi-digit Subtraction Strategies (Lessons 3-11)**

**Number of days:** 12

**Daily Routine:** Estimating Units of Length (see pg. xxxiii) Money Routine (see p. xxxi)

#### **Quick Practice:**

Lessons 3, 5 & 7: Make-a-Ten Cards: Addition

Lessons 4 & 6: Make-a-Ten Cards: Subtraction

Lesson 8: Count by 5's from 5 to 100

Lesson 9: Dive the Deep

Lesson 10-11: Quick Check

<b>Vocabulary:</b> count on, break apart, ungroup, expanded method, ungroup first method, difference
<b>Essential Questions:</b> What are the multi-digit subtraction strategies?
<b>Learning Targets:</b>
Lesson 3: <ul style="list-style-type: none"> <li>Find the unknown addends and use different methods to find addends for 100.</li> </ul>
Lesson 4: <ul style="list-style-type: none"> <li>Use student-generated methods to solve subtraction word problems.</li> </ul>
Lesson 5: <ul style="list-style-type: none"> <li>Solve 2-digit subtraction problems using the Expanded method and the Ungroup First Method.</li> </ul>
Lesson 6: <ul style="list-style-type: none"> <li>Solve subtraction story problems using a preferred method and explain the method used.</li> </ul>
Lesson 7: <ul style="list-style-type: none"> <li>Review 2-digit subtraction methods and apply those methods to subtracting from 200.</li> </ul>
Lesson 8: <ul style="list-style-type: none"> <li>Decide when to ungroup in subtraction and subtract a 2-digit number from any number less than 200.</li> </ul>
Lesson 9: <ul style="list-style-type: none"> <li>Subtract 2-digit numbers from numbers with a zero in the tens or ones place.</li> </ul>
Lesson 10: <ul style="list-style-type: none"> <li>Relate ungrouping hundreds and tens in subtraction to ungrouping dollars and dimes.</li> </ul>
Lesson 11: <ul style="list-style-type: none"> <li>Build fluency for Subtraction within 100.</li> </ul>
<b>Assessments:</b>
After Lesson 11, give <b>Quick Quiz 2(February 7)</b> and Fluency Check 10.
<b>Unit 4: Big Idea 3: Word Problems: Addition and Subtraction within 100 (Lessons 12-23)</b>
<b>Number of days:</b> 15
<b>Daily Routine:</b> Estimating Units of Length (pg. xxxiii) Money Routine (see p. xxxi)
<b>Quick Practice:</b>
Lesson 12, 13, & 14: Quick Check
Lesson 15, 17, & 21: Addition Sprint
Lesson 16, 18, 20, 22, & 23: Subtraction Sprint
Lesson 19: Count by 5's from 100 to 200
<b>Vocabulary:</b> Adding Up Method, Start Unknown, Change Unknown
<b>Essential Questions:</b> How can we solve addition and subtraction problems within 100?
<b>Learning Targets:</b>
Lesson 12: <ul style="list-style-type: none"> <li>Compare addition and subtraction methods and use addition and subtraction to solve word problems.</li> </ul>
Lesson 13: <ul style="list-style-type: none"> <li>Generate eight questions from a math Mountain, and practice solving different types of word problems.</li> </ul>
Lesson 14:



- Practice addition and subtraction within 100 and use those skills to solve word problems.
- Lesson 15:
- Add up to calculate change from one dollar.
- Lesson 16:
- Add up to solve unknown addend word problems.
- Lesson 17:
- Add up to solve unknown addend word problems.
- Lesson 18:
- Solve word problems with start unknown or change unknown.
- Lesson 19:
- Represent and solve *Compare* word problems.
- Lesson 20:
- Solve mixed word problems.
- Lesson 21:
- Solve two-step word problems.
- Lesson 22:
- Solve two-step word problems.
- Lesson 23:
- Use the Common Core Standards and Practice in a variety of real world problem solving situations.

**Assessments:**

After Lesson 23, give Quick Quiz 3 and Fluency Check 11 (March 2).

At the end of Unit 4, give **Unit 4 Test (March 6)**.

# Unit 5: Time, Graphs, and Word Problems

March 7-March 27

## Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>began to organize and represent categorical data.</li> </ul>	<ul style="list-style-type: none"> <li>draw and use picture graphs.</li> <li>draw and use both horizontal and vertical bar graphs and relate the scale to a number line diagram.</li> </ul>	<ul style="list-style-type: none"> <li>draw picture graphs in which each picture represents more than one object.</li> <li>draw bar graphs in which the height of a given bar in tick marks must be multiplied by the scale factor in order to yield the number of objects in the given category.</li> </ul>

## Unit 5: Common Core State Standards

### Content

CC.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.

CC.2.OA.2: Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.

CC.2.NBT.2: Count within 1,000; skip-count by 5's, 10's, and 100's.

CC.2.NBT.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using  $>$ ,  $=$ ,  $<$  symbols to record the results of comparisons.

CC.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.

CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.

CC.2.MD.7: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

CC.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 bar graph.

CC.2.G.3: Partition circles and rectangles into two, three, or four equal shares, describe the shares using words halves, thirds, half of, a third of, 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.
<i>Practices</i>
<b>MP.1 Make sense of problems and persevere in solving them.</b>
MP.2 Reason abstractly and quantitatively.
<b>MP.3 Construct viable arguments and critique the reasoning of others.</b>
MP.4 Model with mathematics.
MP.5 Use appropriate tools strategically.
<b>MP.6 Attend to precision.</b>
MP.7 Look for and make use of structure.
MP.8 Look for and express regularity in repeated reasoning.
<b>Unit 5: Big Idea 1: Time (Lessons 1-2)</b>
<b>Number of days: 4</b>
<b>Daily Routine:</b> Time (see page xxxiv)
<b>Quick Practice:</b> Lessons 1-2: Even or Odd? And Count by 5's from 100 to 200
<b>Vocabulary:</b> clock, analog clock, digital clock, hour hand, minute hand, A.M., P.M., equal shares, half, halves
<b>Essential Questions:</b> How can we tell time?
<b>Learning Targets:</b> Lesson 1: <ul style="list-style-type: none"> <li>Tell and write time to the hour, including A.M. and P.M.</li> </ul> Lesson 2: <ul style="list-style-type: none"> <li>Tell time to 5 minutes.</li> </ul>
<b>Assessments:</b> After Lesson 2, give <b>Quick Quiz 1 (March 12)</b> and Fluency Check 12.
<b>Unit 5: Big Idea 2: Picture Graphs (Lessons 3-4)</b>
<b>Number of days: 3</b>
<b>Daily Routine:</b> Time (see page xxxiv)
<b>Quick Practice:</b> Lesson 3-4: Even or Odd? and Count by 5's from 100 to 200
<b>Vocabulary:</b> picture graph, fewer, less, vertical, title, more, most, fewest, horizontal
<b>Essential Questions:</b> How can we understand a picture graph?
<b>Learning Targets:</b> Lesson 3: <ul style="list-style-type: none"> <li>Draw picture graphs and solve problems using information from the graphs.</li> </ul> Lesson 4: <ul style="list-style-type: none"> <li>Solve Compare and Put Together/Take Apart problems using information from a picture graph.</li> </ul>
<b>Assessments:</b> After Lesson 4, give Quick Quiz 2 and Fluency Check 13 (March 15).

**Unit 5: Big Idea 3: Bar Graphs (Lessons 5-10)****Number of days:** 7**Daily Routine:** Time (see page xxxiv)**Quick Practice:**

Lesson 5-7: Teen Addition Flash and Make-a-Ten Cards: Addition

Lesson 8-9: Teen Subtraction Flash and Make-a-Ten Cards: Subtraction

**Vocabulary:**

bar graph, data, data table, horizontal bar graph, vertical bar graph, scale, sort, table, data, survey,

**Essential Questions:** How can we understand a bar graph?**Learning Targets:**

Lesson 5:

- Draw bar graphs.

Lesson 6:

- Read and analyze information in horizontal and vertical bar graphs.

Lesson 7:

- Use information in bar graphs to solve Put Together/Take Apart and Compare problems having one or more steps to solve.

Lesson 8:

- Gather, organize, and display data.

Lesson 9:

- Interpret data in graphs and use the data for problem solving.

**Assessments:**

After Lesson 10, give Quick Quiz 3 and Fluency Check 14 (March 26).

# Unit 6: 3-Digit Addition and Subtraction

March 28-May 4

## Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>decomposed numbers written in base-ten notation into base-ten units.</li> <li>added within 100.</li> <li>subtracted multiples of 10.</li> </ul>	<ul style="list-style-type: none"> <li>extend base-ten understanding to 1000.</li> <li>compute sums and differences within 1000 using place value.</li> </ul>	<ul style="list-style-type: none"> <li>build or maintain fluency for addition and subtraction within 1000.</li> </ul>

## Unit 6: Common Core State Standards

### Content

CC.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.

CC.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.

CC.2.NBT.1a: 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 a special case: a. 100 can be thought of as a bundle of ten tens – called a “hundred.”  
706

CC.2.NBT.1a: 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 a special case: 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)

CC.2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.

CC.2.NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

CC.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.

CC.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.

CC.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.  
 CC.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.

CC.2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.

CC.2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

*Practices*

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

**MP.3 Construct viable arguments and critique the reasoning of others.**

MP.4 Model with mathematics.

MP.5 Use appropriate tools strategically.

**MP.6 Attend to precision.**

MP.7 Look for and make use of structure.

MP.8 Look for and express regularity in repeated reasoning.

**Unit 6: Big Idea 1: Understanding Numbers to 1,000 (Lessons 1-5)**

Number of days: 6

**Daily Routines:** Math Mountains for 100 or 2-Digit Numbers (see p. xxxv) Money Routine (see p. xxxi)

**Quick Practice:**

Lesson 1-2: Count by 10s to 200 & Make a Ten Cards: Subtraction

Lesson 3-5: Add or Subtract 100 & Count by 10s to 200

**Vocabulary:** one thousand, decade number, hundreds, tens, ones

**Essential Questions:** How can we understand numbers to 1,000?

**Learning Targets:**

Lesson 1:

- Count to 1,000 and represent 3-digit numbers.

Lesson 2:

- Understand the value of the digits in a 3-digit numbers in expanded form.

Lesson 3:

- Compare numbers within 999.

Lesson 4:

- Count by ones and tens, add and subtract 10 from a number, and read and write number names for 3-digit numbers.

Lesson 5:

Use addition exercises to show place value, and apply knowledge of place value to word problems.

**Assessments:**

After lesson 5, give Quick Quiz 1 and Fluency Check 15 (April 12)

<b>Unit 6: Big Idea 2: Adding to 1,000 (Lessons 6-8)</b>
<b>Number of days: 4</b>
<b>Daily Routine:</b> Math Mountains for 100 or 2-Digit Numbers (see p. xxxv) Money Routine (see p. xxxi)
<b>Quick Practice:</b> Lessons 6-8: Add or Subtract 10 & Count by 100s from 100 to 1,000
<b>Vocabulary:</b> Show all Totals, New Groups Below, New Groups Above
<b>Essential Questions:</b> How can we use different methods/strategies when adding to 1,000?
<b>Learning Targets:</b> Lesson 6: <ul style="list-style-type: none"> <li>Explain the methods used to solve addition problems and discuss good explanations and good questions.</li> </ul> Lesson 7: <ul style="list-style-type: none"> <li>Add within 1,000 using drawings and strategies based on place value.</li> </ul> Lesson 8: <ul style="list-style-type: none"> <li>Use the Adding Up Method to solve unknown addend problems with 3-digit numbers.</li> </ul>
<b>Assessments:</b> After lesson 8, give <b>Quick Quiz 2 (April 18)</b> and Fluency Check 16
<b>Unit 6: Big Idea 3: 3-Digit Subtraction (Lessons 9-12)</b>
<b>Number of days: 5</b>
<b>Daily Routine:</b> Math Mountains for 100 or 2-Digit Numbers (see p. xxxv) Money Routine (see p. xxxi)
<b>Quick Practice:</b> Lesson 9: Add Over the Hundred & Count by 10s from 500 to 600 Lesson 10: Add Over the Hundred & Count by 10s from 700 to 900 Lesson 11: Add Over the Hundred & Count by 10s from 200 to 500 Lesson 12: Add Over the Hundred & Count by 10s from 800 to 1,000
<b>Vocabulary:</b> ungroup
<b>Essential Questions:</b> How can we use different methods to do 3-digit subtraction?
<b>Learning Targets:</b> Lesson 9: <ul style="list-style-type: none"> <li>Subtract 3-digit numbers from hundreds numbers through 1,000.</li> </ul> Lesson 10: <ul style="list-style-type: none"> <li>Subtract from 3-digit numbers with a zero in ones or tens place.</li> </ul> Lesson 11: <ul style="list-style-type: none"> <li>Subtract from any 3-digit number, with or without ungrouping.</li> </ul> Lesson 12: <ul style="list-style-type: none"> <li>Practice subtracting 3-digit numbers with and without regrouping.</li> </ul>
<b>Assessments:</b> After Lesson 12, give Quick Quiz 3 and Fluency Check 17 (April 25)

**Unit 6: Big Idea 4: 3-Digit Addition and Subtraction (Lessons 13-15)****Number of days:** 4**Daily Routine:** Math Mountains for 100 or 2-Digit Numbers (see p. xxxv) Money Routine (see p. xxxi)**Quick Practice:**

Lesson 13: Quick Check &amp; Count by 5s from 650 to 750

Lesson 14-15: Quick Check &amp; Count by 5s from 350 to 450

**Vocabulary:** opposite operations**Essential Questions:** How can we add and subtract 3-digit numbers?**Learning Targets:**

Lesson 13:

- Practice addition and subtraction with 3-digit numbers and use the relationship between addition and subtraction to check answers.

Lesson 14:

- Use addition and subtraction within 1,000 to solve word problems.

Lesson 15:

- Use the Common Core Content Standards and Practices in a variety of real world problem solving situations.

**Assessments:**

After Lesson 15, give Quick Quiz 4 and Fluency Check 18 (May 2)



# Unit 7: Arrays, Equal Shares, and Adding and Subtracting Lengths

May 7-May 24

Learning Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...
<ul style="list-style-type: none"> <li>used fraction language to describe partitions of shapes into equal shares.</li> </ul>	<ul style="list-style-type: none"> <li>continue to use fraction language to describe partitions of shapes into equal shares.</li> </ul>	<ul style="list-style-type: none"> <li>develop the idea of a fraction more formally, building on the idea of partitioning a whole into equal parts. The whole can be a shape such as a circle or rectangle, a line segment, or any one finite entity susceptible to subdivision and measurement.</li> </ul>

## Unit 7: Common Core State Standards

*Content*

CC.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.

CC.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.

CC.2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.

*Practices*

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

### Unit 7: Big Idea 1: Arrays and Equal Shares (Lessons 1-2)

Number of days: 4

Daily Routine: Comparing 3-Digit Numbers (see p. xxxvi), Money Routine (See p. xxxi.)

#### Quick Practice:

Lesson 1: Addition Sprint

Lesson 2: Subtraction Sprint

Vocabulary: array, row, column, half, halves, thirds, fourths, equal shares,

Essential Questions: How can we understand arrays and equal shares?

#### Learning Targets:

Lesson 1:

- Arrange items in rectangular arrays and partition rectangles into equal shares.

Lesson 2:

- Fold and draw equal shares to show halves, thirds, and fourths.

#### Assessments:

After Lesson 2, give **Quick Quiz 1 (May 10)** and Fluency Check 19

### Unit 7: Big Idea 2: Relate Addition and Subtraction to Length (Lessons 3-6)

Number of days: 8

Daily Routine: Comparing 3-Digit Numbers (see p. xxxvi) and Money Routine (see p. xxxi)

#### Quick Practice:

Lessons 3-6: Count by 100s to 1,000

Lesson 3: Quick Check

Lesson 4: Subtraction Sprint

Lesson 5: Addition Sprint

Vocabulary: number line diagram

Essential Questions: How can we relate addition and subtraction to length?

**Learning Targets:**

## Lesson 3

- Solve word problems involving lengths and use a number line diagram to add and subtract within 100.

## Lesson 4

- Add three and four lengths to solve word problems.

## Lesson 5

- Solve problems involving adding and subtracting lengths.
- Represent sums and differences within 100 on a number line diagram.

## Lesson 6

- Use the Common Core Content Standards and Mathematical Practices in a variety of real world problem solving situations.

**Assessments:**

After Lesson 6, give **Quick Quiz 2** and Fluency Check 20 (May 22)

At the end of Unit 7, give **End of Year Test (May 29)**