

An Alignment of  
**enVisionMATH Common Core, ©2015**  
**Grades Kindergarten - 6**



to  
**Investigations in Number, Data,  
and Space, ©2012**  
**Grades Kindergarten – 5**

and

**Connected Math 3 (CMP3), ©2014**  
**Grade 6**



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enVisionMATH Common Core, ©2015 Kindergarten	Investigations in Number, Data, and Space, ©2012 Kindergarten
<b>Counting and Cardinality</b>	
<b>Topic 1: One to Five</b>	
Lesson 1-1: Counting 1, 2, and 3	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 1-2: Counting 1, 2, and 3 in Different Arrangements	<b>U1 Sessions</b> 1.6, 2.1, 2.5 <b>U2 Sessions</b> 1.10 <b>U6 Sessions</b> 1.3, 1.6, 1.7
Lesson 1-3: Reading and Writing 1, 2, and 3	<b>U1 Sessions</b> 1.3, 1.4, 2.5, 3.2 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9
Lesson 1-4: Counting 4 and 5	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 1-5: Counting 4 and 5 in Different Arrangements	<b>U1 Sessions</b> 1.6, 2.1, 2.5 <b>U2 Sessions</b> 1.10 <b>U6 Sessions</b> 1.3, 1.6, 1.7
Lesson 1-6: Reading and Writing 4 and 5	<b>U1 Sessions</b> 1.3, 1.4, 2.5, 3.2 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9
Lesson 1-7: Problem Solving: Use Objects	Students use objects to model and solve mathematical and real-world problems throughout the series. Sample references: <b>U1 Sessions</b> 1.6, 2.1, 2.5 <b>U2 Sessions</b> 1.10 <b>U6 Sessions</b> 1.3, 1.6, 1.7
<b>Topic 2: Comparing and Ordering 0 to 5</b>	
Lesson 2-1: More, Fewer, and Same As	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7

**Kindergarten Investigations Curriculum Units**

- U1** Who Is in School Today?
- U2** Counting and Comparing
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Lesson 2-2: 1 and 2 More	<b>U4 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 2-3: 1 and 2 Fewer	<b>U4 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 2-4: As Many, More, and Fewer	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
Lesson 2-5: Comparing Numbers Through 5	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
Lesson 2-6: The Number 0	<b>U2 Sessions</b> 1.1, 2.5 (page 102) <b>U4 Session</b> 4.4 <b>U6 Sessions</b> 3.1 (page 101), 4.2
Lesson 2-7: Reading and Writing 0	<b>U2 Sessions</b> 1.1, 2.5 (page 102) <b>U4 Session</b> 4.4 <b>U6 Session</b> 4.2
Lesson 2-8: Ordering Numbers 0 to 5	<b>U2 Sessions</b> 2.10, 2.11, 2.12, 2.13, 2.14
Lesson 2-9: Problem Solving: Use Objects	Students use objects to model and solve mathematical and real-world problems throughout the series. Sample references: <b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
<b>Topic 3: Six to Ten</b>	
Lesson 3-1: Counting 6 and 7	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 3-2: Reading and Writing 6 and 7	<b>U1 Sessions</b> 1.3, 1.4, 2.5, 3.2 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9

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Lesson 3-3: Counting 8 and 9	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 3-4: Reading and Writing 8 and 9	<b>U1 Sessions</b> 1.3, 1.4, 2.5, 3.2 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9
Lesson 3-5: Counting 10	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 3-6: Reading and Writing 10	<b>U1 Sessions</b> 1.3, 1.4, 2.5, 3.2 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.9
Lesson 3-7: Problem Solving: Look for a Pattern	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
<b>Topic 4: Comparing and Ordering Numbers 0 to 10</b>	
Lesson 4-1: Comparing Numbers Through 10	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
Lesson 4-2: Comparing Numbers to 5	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
Lesson 4-3: Comparing Numbers to 10	<b>U2 Sessions</b> 1.7, 2.4, 2.5, 2.6, 2.8, 2.9 <b>U4 Sessions</b> 3.4, 3.5, 3.7
Lesson 4-4: 1 More	<b>U4 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 4-5: 1 Fewer	<b>U4 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7

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Lesson 4-6: 2 More	Students compare numbers, but there is not a reference specifically to “2 more” or “2 fewer.” The following references are to “more” and “fewer” and to the addition of 1, 2, and 3 to a number of objects up to 5. <b>U4 Sessions</b> 3.4, 3.5, 3.6, 3.7 <b>U6 Session</b> 5A.1
Lesson 4-7: 2 Fewer	Students compare numbers, but there is not a reference specifically to “2 more” or “2 fewer.” The following references are to “more” and “fewer” and to the subtraction of 1, 2, and 3 from a number of objects up to 5. <b>U4 Sessions</b> 3.4, 3.5, 3.6, 3.7 <b>U6 Session</b> 5A.1
Lesson 4-8: Ordering Numbers Through 10	<b>U2 Sessions</b> 2.10, 2.11, 2.12, 2.13, 2.14
Lesson 4-9: Ordering Numbers on a Number Line	Students use the number line as a counting tool, construct attendance sticks, and explore sequences of numbers on calendars. <b>U1 Sessions</b> 1.3, 1.4, 1.6; Dialogue Box (page 142) <b>U4 Session</b> 2.1 (page 60) <b>U6 Session</b> 1.3A
Lesson 4-10: Problem Solving: Use Objects	Students use objects to model and solve mathematical and real-world problems throughout the series. Sample references: <b>U4 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7
<b>Topic 5: Numbers to 20</b>	
Lesson 5-1: Counting, Reading, and Writing 11 and 12	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10

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Lesson 5-2: Counting, Reading, and Writing 13, 14, and 15	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 5-3: Counting, Reading, and Writing 16 and 17	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 5-4: Counting, Reading, and Writing 18, 19, and 20	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 5-5: How Many?	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
Lesson 5-6: Problem Solving: Use Logical Reasoning	<b>U1 Sessions</b> 1.1, 1.2, 2.1, 2.5, 3.2, 3.6 <b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10
<b>Topic 6: Numbers to 100</b>	
Lesson 6-1: Counting to 30	Students gain experience counting to 30 as they practice the rote counting sequence from 1 to 30, count students present to determine attendance, create attendance sticks, and participate in calendar activities. <b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.6 <b>U6 Session</b> 1.3A
Lesson 6-2: Counting to 100	Kindergarten students count to 100 in groups of ten (fingers) and count to 30 using both rote counting and also tools, including number lines, attendance sticks, and calendars. <b>U6 Sessions</b> 1.3A, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.3; Teacher Note (page 165) <b>U7 Session</b> 1.7A

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Lesson 6-3: Counting Groups of Ten	Kindergarten students count fingers in groups of 10 up to 100; they use ten frames and play the games, "Collect 10 Together," "Collect 20 Together," and "How Many to 10?" <b>U4 Sessions</b> 2.2, 2.3, 2.5 <b>U6 Sessions</b> 2.2, 2.3, 2.4, 2.5, 2.6, 5A.2, 5A.4, 5A.5 <b>U7 Session</b> 1.7A
Lesson 6-4: Patterns on a Hundred Chart	Kindergarten students do not use a Hundred Chart. They complete a "People and Fingers" Chart to count to 100 by tens. <b>U7 Session</b> 1.7A
Lesson 6-5: Problem Solving: Look for a Pattern	<b>U6 Sessions</b> 5A.2, 5A.4, 5A.5
<b>Operations and Algebraic Thinking</b>	
<b>Topic 7: Understanding Addition</b>	
Lesson 7-1: Stories About Joining	<b>U4 Sessions</b> 3.2, 3.5 <b>U6 Sessions</b> 3.1 (Activity 3), 3.3, 3.4, 3.5, 3.7
Lesson 7-2: More Joining	<b>U4 Sessions</b> 2.2, 2.3, 2.4, 2.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4
Lesson 7-3: Joining Groups	<b>U4 Sessions</b> 2.2, 2.3, 2.4, 2.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4
Lesson 7-4: Using the Plus Sign	<b>U6 Sessions</b> 1.1, 1.2, 3.1, 3.3, 3.4, 4.3, 5A.1, 5A.2, 5A.3, 5A.4, 5A.5
Lesson 7-5: Finding Sums	<b>U4 Sessions</b> 2.2, 2.3, 2.4, 2.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4
Lesson 7-6: Addition Sentences	<b>U6 Sessions</b> 1.1, 1.2, 3.1, 3.3, 3.4, 4.3

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Lesson 7-7: Problem Solving: Draw a Picture	<b>U4 Sessions</b> 2.2, 2.3, 2.4, 2.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4
<b>Topic 8: Understanding Subtraction</b>	
Lesson 8-1: Stories About Separating	<b>U4 Session</b> 3.2, 3.5 <b>U6 Sessions</b> 3.1 (Activity 3), 3.3, 3.4, 3.6
Lesson 8-2: Stories About Take Away	<b>U4 Session</b> 3.2, 3.5 <b>U6 Sessions</b> 3.1 (Activity 3), 3.3, 3.4, 3.6
Lesson 8-3: Problem Solving: Act It Out	<b>U4 Sessions</b> 3.2, 3.3, 3.5, 4.2, 4.5 <b>U6 Sessions</b> 3.1, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 8-4: Using the Minus Sign	<b>U4 Sessions</b> 3.2, 3.3 <b>U6 Sessions</b> 3.4, 5A.1
Lesson 8-5: Finding Differences	<b>U4 Sessions</b> 3.2, 3.3 <b>U6 Session</b> 3.4
Lesson 8-6: Subtraction Sentences	<b>U4 Sessions</b> 3.2, 3.3 <b>U6 Session</b> 3.4
Lesson 8-7: Subtraction Stories	<b>U4 Sessions</b> 3.2, 3.5 <b>U6 Sessions</b> 3.1 (Activity 3), 3.3, 3.4, 3.6
Lesson 8-8: Problem Solving: Use Objects	<b>U4 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4 <b>U6 Sessions</b> 4.2, 4.3, 4.4
<b>Topic 9: More Addition and Subtraction</b>	
Lesson 9-1: Making 4 and 5	<b>U6 Sessions</b> 1.3, 1.6, 4.1
Lesson 9-2: Writing Number Sentences for 4 and 5	<b>U6 Sessions</b> 1.3, 1.6, 4.1
Lesson 9-3: Making 6 and 7	<b>U6 Sessions</b> 1.1, 1.3, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.9

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Lesson 9-4: Writing Number Sentences for 6 and 7	<b>U6 Sessions</b> 1.1, 1.3, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.9
Lesson 9-5: Making 8 and 9	<b>U6 Session</b> 1.7
Lesson 9-6: Writing Number Sentences for 8 and 9	<b>U6 Session</b> 1.7
Lesson 9-7: Making 10	Kindergarten students use ten frames and play the games, "Collect 10 Together" and "How Many to 10?" <b>U4 Sessions</b> 2.2, 2.3, 2.5 <b>U6 Sessions</b> 5A.2, 5A.4, 5A.5
Lesson 9-8: Writing Number Sentences for 10	Kindergarten students use ten frames and play the games, "Collect 10 Together" and "How Many to 10?" <b>U4 Sessions</b> 2.2, 2.3, 2.5 <b>U6 Sessions</b> 5A.2, 5A.4, 5A.5
Lesson 9-9: Problem Solving: Make a Graph	Students represent data to answer "Today's Question." <b>U1 Sessions</b> 3.1, 3.4 <b>U7 Sessions</b> 2.6, 3.1
<b>Number and Operations in Base Ten</b>	
<b>Topic 10: Composing Numbers 11 to 19</b>	
Lesson 10-1: Making 11, 12, and 13	<b>U6 Sessions</b> 2.1 (Math Note, TE page 71), 5A.3, 5A.4, 5A.5
Lesson 10-2: Making 14, 15, and 16	<b>U6 Sessions</b> 2.1, 5A.3, 5A.4, 5A.5
Lesson 10-3: Making 17, 18, and 19	<b>U6 Sessions</b> 2.1 (Math Note, TE page 71), 5A.3, 5A.4, 5A.5
Lesson 10-4: Problem Solving: Look for a Pattern	<b>U4 Sessions</b> 2.2, 2.3, 2.4, 2.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4

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<b>Topic 11: Decomposing Numbers 11 to 19</b>	
Lesson 11-1: Creating Sets to 19	Kindergarten students play the games, "Collect 10" and "Collect 15," and they build The Teen Numbers. <b>U2 Session</b> 1.7 <b>U4 Sessions</b> 2.2, 2.3, 2.5 <b>U6 Sessions</b> 2.1, 5A.3, 5A.4, 5A.5
Lesson 11-2: Parts of 11, 12, and 13	<b>U6 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 11-3: Parts of 14, 15, and 16	<b>U6 Sessions</b> 2.1, 5A.3, 5A.4, 5A.5
Lesson 11-4: Parts of 17, 18, and 19	<b>U6 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 11-5: Problem Solving: Look for a Pattern	<b>U6 Sessions</b> 5A.3, 5A.4, 5A.5
<b>Measurement and Data</b>	
<b>Topic 12: Measurement</b>	
Lesson 12-1: Describing Objects by More Than One Attribute	<b>U1 Sessions</b> 2.2, 2.3, 2.4, 3.3, 3.4 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 12-2: Comparing by Length	Kindergarten students measure lengths and compare lengths. <b>U2 Sessions</b> 2.1, 2.2, 2.9 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U6 Session</b> 2.3
Lesson 12-3: More Comparing Objects by Length	Kindergarten students measure lengths and compare lengths. <b>U2 Sessions</b> 2.1, 2.2, 2.9 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U6 Session</b> 2.3

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Lesson 12-4: Problem Solving: Try, Check, and Revise	<b>U2 Sessions</b> 2.1, 2.2, 2.9 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U6 Session</b> 2.3
Lesson 12-5: Comparing by Height	Kindergarten students measure lengths of body parts. <b>U6 Session</b> 2.3
Lesson 12-6: More Comparing Objects by Height	Kindergarten students measure lengths of body parts. <b>U6 Session</b> 2.3
Lesson 12-7: Comparing Capacities	Kindergarten students do not compare capacities of containers.
Lesson 12-8: Comparing by Weight	<b>U4 Sessions</b> 1.6A, 1.6B, 1.6C
<b>Topic 13: Sorting, Classifying, Counting, and Categorizing Data</b>	
Lesson 13-1: Same and Different	<b>U7 Session</b> 2.4
Lesson 13-2: Sorting by One Attribute	<b>U1 Sessions</b> 3.3, 3.4 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 13-3: Sorting the Same Set in Different Ways	<b>U1 Sessions</b> 3.3, 3.4 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 13-4: Sorting by More Than One Attribute	<b>U1 Sessions</b> 3.3, 3.4 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 13-5: Problem Solving: Use Logical Reasoning	<b>U1 Sessions</b> 3.3, 3.4 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5

**Kindergarten Investigations Curriculum Units**

- U1** Who Is in School Today?
- U2** Counting and Comparing
- U3** What Comes Next?
- U4** Measuring and Counting

- U5** Make a Shape, Build a Block
- U6** How Many Do You Have?
- U7** Sorting and Surveys

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Lesson 13-6: Real Graphs	Students represent data to answer "Today's Question." <b>U1 Sessions</b> 3.1, 3.4 <b>U7 Sessions</b> 2.6, 3.1
Lesson 13-7: Picture Graphs	Students represent data to answer "Today's Question." <b>U1 Sessions</b> 3.1, 3.4 <b>U7 Sessions</b> 2.6, 3.1
<b>Geometry</b>	
<b>Topic 14: Identifying and Describing Shapes</b>	
Lesson 14-1: Rectangles	<b>U5 Session</b> 1.2
Lesson 14-2: Squares	<b>U5 Session</b> 1.3
Lesson 14-3: Circles	<b>U5 Session</b> 1.2
Lesson 14-4: Triangles	<b>U5 Session</b> 1.3
Lesson 14-5: Hexagons	<b>U5 Sessions</b> 2.3, 2.6
Lesson 14-6: Solid Figures	<b>U5 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8
Lesson 14-7: Flat Surfaces of Solid Figures	<b>U5 Sessions</b> 3.3, 3.5
Lesson 14-8: Problem Solving: Use Objects	<b>U5 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4, 2.5, 2.6, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8
<b>Topic 15: Position and Location of Shapes</b>	
Lesson 15-1: Inside and Outside	There are no specific references to position and location of shapes.
Lesson 15-2: Above, Below, and On	There are no specific references to position and location of shapes.

**Kindergarten Investigations Curriculum Units**

- U1** Who Is in School Today?
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Lesson 15-3: In Front of and Behind	There are no specific references to position and location of shapes.
Lesson 15-4: Left and Right	There are no specific references to position and location of shapes.
Lesson 15-5: Problem Solving: Act It Out	There are no specific references to position and location of shapes.
<b>Topic 16: Analyzing, Comparing, and Composing Shapes</b>	
Lesson 16-1: Creating 2-D Shapes	<b>U5 Sessions</b> 1.4, 1.5, 1.6, 2.1, 2.5
Lesson 16-2: Making Shapes from Other Shapes	<b>U5 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
Lesson 16-3: Comparing Solid Figures	<b>U5 Session</b> 3.8
Lesson 16-4: Building with Solid Figures	<b>U5 Session</b> 3.6
Lesson 16-5: Problem Solving: Use Logical Reasoning	<b>U5 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4, 2.5, 2.6, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8

**Kindergarten Investigations Curriculum Units**

- U1** Who Is in School Today?
- U2** Counting and Comparing
- U3** What Comes Next?
- U4** Measuring and Counting

- U5** Make a Shape, Build a Block
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enVisionMATH Common Core, ©2015 Grade 1	Investigations in Number, Data, and Space, ©2012 Grade 1
<b>Operations and Algebraic Thinking</b>	
<b>Topic 1: Understanding Addition</b>	
Lesson 1-1: Spatial Patterns for Numbers to 10	<b>U1 Session</b> 2.6 <b>U3 Session</b> 1.5 <b>U6 Sessions</b> 1.1, 1.4, 1.7, 2.3 <b>U8 Session</b> 3.1
Lesson 1-2: Making 6 and 7	<b>U1 Sessions</b> 4.1, 4.6 <b>U3 Sessions</b> 1.2, 1.3, 1.5, 3.2 <b>U6 Sessions</b> 2.4
Lesson 1-3: Making 8	<b>U3 Sessions</b> 1.3, 1.5, 3.2
Lesson 1-4: Making 9	<b>U1 Session</b> 4.5 <b>U3 Sessions</b> 1.1, 1.2, 1.5, 3.2
Lesson 1-5: Introducing Addition Expressions and Number Sentences	<b>U1 Sessions</b> 3.3, 3.7 <b>U3 Sessions</b> 1.1, 1.5, 1.9, 3.2, 3.5 <b>U6 Sessions</b> 1.1, 1.4, 1.6, 2.3, 2.4 <b>U8 Sessions</b> 3.1, 3.3, 3.5
Lesson 1-6: Stories about Joining	<b>U1 Sessions</b> 3.3, 3.5, 3.7 <b>U3 Sessions</b> 1.6, 1.7, 1.8, 3.1, 3.3, 3.4, 3.5 <b>U6 Sessions</b> 1.4, 3.3, 3.4, 3.5, 3.6
Lesson 1-7: Adding in Any Order	<b>U3 Sessions</b> 3.2 <b>U6 Sessions</b> 1.2, 1.6, 1.7, 2.1, 3.1
Lesson 1-8: Problem Solving: Use Objects	<b>U1 Sessions</b> 2.2, 2.3, 2.3, 3.4, 4.2 <b>U3 Sessions</b> 1.2, 1.4, 2.1, 3.3 <b>U6 Sessions</b> 1.2, 1.5, 3.2 <b>U8 Sessions</b> 1.1, 3.2, 3.3

**Grade 1 Investigations Curriculum Units**

- U1** How Many of Each?
- U2** Making Shapes and Designing Quilts
- U3** Solving Story Problems
- U4** What Would You Rather Be?
- U5** Fish Lengths and Animal Jumps

- U6** Number Games and Crayon Puzzles
- U7** Color, Shape, and Number Puzzles
- U8** Twos, Fives, and Tens
- U9** Blocks and Boxes

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<b>Topic 2: Understanding Subtraction</b>	
Lesson 2-1: Finding Missing Parts of 6 and 7	<b>U3 Sessions</b> 1.2, 1.3 <b>U6 Session</b> 1.5
Lesson 2-2: Finding Missing Parts of 8	<b>U3 Session</b> 1.3
Lesson 2-3: Finding Missing Parts of 9	Grade 1 students find missing parts of various numbers. <b>U3 Sessions</b> 1.2, 1.3, 1.9, 3.3 <b>U6 Session</b> 1.5
Lesson 2-4: Introducing Subtraction Expressions and Number Sentences	<b>U3 Sessions</b> 2.2, 2.3, 3.2, 3.5 <b>U6 Sessions</b> 1.1, 1.3, 3.5, 3.7
Lesson 2-5: Stories about Taking Away	<b>U3 Sessions</b> 2.1, 2.2, 2.3, 3.1, 3.5; Teacher Note (page 197) <b>U6 Sessions</b> 1.3, 1.4, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 2-6: Stories about Comparing	<b>U3 Teacher Note</b> (page 197) <b>U5 Sessions</b> 1.4, 1.5, 2.4
Lesson 2-7: Stories about Missing Parts	<b>U6 Sessions</b> 1.8A, 1.8B
Lesson 2-8: All Kinds of Subtraction Stories	<b>U3 Sessions</b> 2.1, 2.2, 2.3, 3.1, 3.5; Teacher Note (page 197) <b>U5 Sessions</b> 1.4, 1.5 <b>U6 Sessions</b> 1.3, 1.4, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 2-9: Connecting Addition and Subtraction	<b>U3 Sessions</b> 2.1, 2.2, 2.3 <b>U6 Sessions</b> 1.3, 1.4, 3.5
Lesson 2-10: Connecting Models and Symbols	<b>U3 Sessions</b> 2.2, 2.3, 3.2, 3.5 <b>U6 Sessions</b> 1.1, 1.3, 3.5, 3.7

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

**U2** Making Shapes and Designing Quilts

**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes



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Lesson 2-11: Problem Solving: Act It Out	Grade 1 students use other methods to solve story problems, including modeling with pictures and equations. <b>U3 Sessions</b> 2.1, 2.2, 2.3, 3.1, 3.5; Teacher Notes (pages 190-191, 192-193) <b>U5 Sessions</b> 1.4, 1.5 <b>U6 Sessions</b> 1.3, 1.4, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
<b>Topic 3: Five and Ten Relationships</b>	
Lesson 3-1: Representing Numbers on a Ten-Frame	<b>U6 Session</b> 1.4
Lesson 3-2: Recognizing Numbers on a Ten-Frame	<b>U6 Session</b> 1.4
Lesson 3-3: Parts of 10	<b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7 <b>U8 Session</b> 3.1, 3.2
Lesson 3-4: Finding Missing Parts of 10	<b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7 <b>U8 Session</b> 3.1, 3.2
Lesson 3-5: Problem Solving: Make a Table	<b>U1 Sessions</b> 4.3, 4.4 <b>U6 Session</b> 1.5 <b>U8 Sessions</b> 2.2, 2.4
<b>Topic 4: Addition and Subtraction Facts to 12</b>	
Lesson 4-1: Adding with 0, 1, 2	Grade 1 students play the game, Plus or Minus 1 BINGO and use the addition strategy, "counting on." <b>U1 Sessions</b> 2.5A, 3.3, 3.5, 3.6 <b>U3 Sessions</b> 1.6, 1.7, 1.8; Teacher Notes (pages 184, 187-189); Dialogue Boxes (pages 218-219, 222-223) <b>U6 Sessions</b> 1.5, 1.6, 3.3, 3.6 <b>U8 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.3

**Grade 1 Investigations Curriculum Units**

- U1** How Many of Each?
- U2** Making Shapes and Designing Quilts
- U3** Solving Story Problems
- U4** What Would You Rather Be?
- U5** Fish Lengths and Animal Jumps

- U6** Number Games and Crayon Puzzles
- U7** Color, Shape, and Number Puzzles
- U8** Twos, Fives, and Tens
- U9** Blocks and Boxes

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Lesson 4-2: Doubles	Grade 1 students count by 2s to determine How Many Hands? and How Many Feet? <b>U8 Sessions</b> 2.1, 2.2, 2.6
Lesson 4-3: Near Doubles	Grade 1 students count by 2s to determine How Many Hands? and How Many Feet? <b>U8 Sessions</b> 2.1, 2.2, 2.6
Lesson 4-4: Facts with 5 on a Ten-Frame	Grade 1 students interpret a partially completed ten-frame as five plus a number; they count by 5s to determine How Many Fingers? <b>U6 Session</b> 1.4 <b>U8 Session</b> 2.4
Lesson 4-5: Making 10 on a Ten-Frame	<b>U6 Session</b> 1.4
Lesson 4-6: Subtracting with 0, 1, 2	Grade 1 students play the game, Plus or Minus 1 BINGO and use the subtraction strategy, "counting back." <b>U1 Session</b> 2.5A <b>U3 Sessions</b> 1.2
Lesson 4-7: Thinking Addition	<b>U3 Session</b> 2.2; Teacher Note (page 198) <b>U6 Sessions</b> 1.3, 3.5, 3.7
Lesson 4-8: Thinking Addition to 8 to Subtract	<b>U3 Session</b> 2.2; Teacher Note (page 198) <b>U6 Sessions</b> 1.3, 3.5, 3.7
Lesson 4-9: Thinking Addition to 12 to Subtract	<b>U3 Session</b> 2.2; Teacher Note (page 198) <b>U6 Sessions</b> 1.3, 3.5, 3.7
Lesson 4-10: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U1 Sessions</b> 3.3, 3.7 <b>U3 Sessions</b> 1.1, 1.5, 1.9, 3.2, 3.5 <b>U6 Sessions</b> 1.1, 1.4, 1.6, 2.3, 2.4 <b>U8 Sessions</b> 3.1, 3.3, 3.5

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

**U2** Making Shapes and Designing Quilts

**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes

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enVisionMATH Common Core, ©2015 Grade 1	Investigations in Number, Data, and Space, ©2012 Grade 1
<b>Topic 5: Addition Facts to 20</b>	
Lesson 5-1: Doubles	Grade 1 students count by 2s to determine How Many Hands? and How Many Feet? <b>U8 Sessions</b> 2.1, 2.2, 2.6
Lesson 5-2: Doubles Plus 1	Grade 1 students count by 2s to determine How Many Hands? and How Many Feet? <b>U8 Sessions</b> 2.1, 2.2, 2.6
Lesson 5-3: Doubles Plus 2	Grade 1 students count by 2s to determine How Many Hands? and How Many Feet? <b>U8 Sessions</b> 2.1, 2.2, 2.6
Lesson 5-4: Problem Solving: Two-Question Problems	There are no references to two-question problems, specifically. Grade 1 students participate in the activity Double Compare, in which they add numbers and then compare the sums. <b>U1 Session</b> 3.1
Lesson 5-5: Making 10 to Add	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.5
Lesson 5-6: Making 10 to Add 9	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.5
Lesson 5-7: Making 10 to Add 8	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.5
Lesson 5-8: Adding Three Numbers	<b>U1 Sessions</b> 4.2, 4.3; Dialogue Box (pages 236-237)
Lesson 5-9: Word Problems with Three Addends	<b>U1 Sessions</b> 4.2, 4.3; Dialogue Box (pages 236-237)
<b>Topic 6: Subtraction Facts to 20</b>	
Lesson 6-1: Making 10 to Subtract	Grade 1 students use combinations of ten to subtract. <b>U6 Session</b> 1.4

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

**U2** Making Shapes and Designing Quilts

**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes

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<b>enVisionMATH Common Core, ©2015 Grade 1</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 1</b>
Lesson 6-2: More with Making 10 to Subtract	Grade 1 students use combinations of ten to subtract. <b>U6 Session 1.4</b>
Lesson 6-3: Using Related Facts	<b>U3 Session 2.2;</b> Teacher Note (page 198) <b>U6 Sessions 1.3, 3.5, 3.7</b>
Lesson 6-4: Fact Families	<b>U3 Session 2.2;</b> Teacher Note (page 198) <b>U6 Sessions 1.3, 3.5, 3.7</b>
Lesson 6-5: Using Addition to Subtract	<b>U3 Session 2.2;</b> Teacher Note (page 198) <b>U6 Sessions 1.3, 3.5, 3.7</b>
Lesson 6-6: Subtraction Facts	<b>U6 Session 3.5</b>
Lesson 6-7: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U1 Sessions 3.3, 3.7</b> <b>U3 Sessions 1.1, 1.5, 1.9, 3.2, 3.5</b> <b>U6 Sessions 1.1, 1.4, 1.6, 2.3, 2.4</b> <b>U8 Sessions 3.1, 3.3, 3.5</b>
<b>Number and Operations in Base Ten</b>	
<b>Topic 7: Counting and Number Patterns to 120</b>	
Lesson 7-1: Making Numbers 11 to 19	<b>U8 Sessions 3.4, 3.5</b>
Lesson 7-2: Using Numbers 11 to 19	<b>U8 Sessions 3.4, 3.5</b>
Lesson 7-3: Counting by 10s	<b>U8 Sessions 3.2, 3.3, 3.4, 4A.1</b>
Lesson 7-4: Counting to 120	<b>U8 Session 1.3A</b>
Lesson 7-5: Using Counting by 10s	<b>U8 Sessions 3.2, 3.3, 3.4</b>
Lesson 7-6: Problem Solving: Look for a Pattern	<b>U8 Sessions 3.2, 3.3, 3.4, 4A.1</b>

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

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**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes

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<b>Topic 8: Tens and Ones</b>	
Lesson 8-1: Counting with Groups of 10 and Leftovers	<b>U8 Sessions</b> 3.2, 3.3, 3.4
Lesson 8-2: Numbers Made with Tens	<b>U8 Sessions</b> 3.2, 3.3, 3.4
Lesson 8-3: Tens and Ones	<b>U8 Sessions</b> 3.3, 3.4, 3.5
Lesson 8-4: Expanded Form	Grade 1 students put together and break apart numbers using tens and ones. <b>U8 Sessions</b> 3.2, 3.3, 3.4
Lesson 8-5: Ways to Make Numbers	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 3.5
Lesson 8-6: Problem Solving: Make an Organized List	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 3.5
<b>Topic 9: Comparing Numbers to 100</b>	
Lesson 9-1: 1 More, 1 Less; 10 More, 10 Less	<b>U8 Session</b> 3.3
Lesson 9-2: Making Numbers on a Hundred Chart	<b>U3 Sessions</b> 4.5, 4.6 <b>U8 Sessions</b> 1.2, 1.3
Lesson 9-3: Using Models to Compare Numbers	<b>U1 Session</b> 3.1 <b>U8 Session</b> 4A.1
Lesson 9-4: Comparing Numbers with $>$ , $<$ , $=$	<b>U1 Sessions</b> 2.2, 2.4, 2.5, 3.1 <b>U8 Session</b> 4A.1
Lesson 9-5: Problem Solving: Make an Organized List	<b>U1 Sessions</b> 2.2, 2.4, 2.5, 3.1 <b>U8 Session</b> 4A.1

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

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**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes

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<b>Topic 10: Adding with Tens and Ones</b>	
Lesson 10-1: Adding Groups of 10	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 4A.2, 4A.3, 4A.5
Lesson 10-2: Adding Tens on a Hundred Chart	<b>U8 Session</b> 4A.2
Lesson 10-3: Adding Tens to Two-Digit Numbers	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 4A.2, 4A.3, 4A.5
Lesson 10-4: Using Mental Math to Add Tens	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 4A.2, 4A.3, 4A.5
Lesson 10-5: Adding to a Two-Digit Number	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 4A.2, 4A.3, 4A.5
Lesson 10-6: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U8 Sessions</b> 3.2, 3.3, 3.4, 4A.2, 4A.3, 4A.5
<b>Topic 11: Subtracting with Tens and Ones</b>	
Lesson 11-1: Subtracting Groups of 10	<b>U8 Sessions</b> 4A.2, 4A.4, 4A.5
Lesson 11-2: Subtracting Tens on a Hundred Chart	<b>U8 Session</b> 4A.2
Lesson 11-3: Subtracting Tens from Two-Digit Numbers	<b>U8 Sessions</b> 4A.2, 4A.4, 4A.5
Lesson 11-4: Using Mental Math to Subtract Tens	<b>U8 Sessions</b> 4A.2, 4A.4, 4A.5
Lesson 11-5: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U8 Sessions</b> 4A.2, 4A.4, 4A.5

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

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<b>Measurement and Data</b>	
<b>Topic 12: Length</b>	
Lesson 12-1: Comparing and Ordering by Length	<b>U5 Sessions</b> 1.4, 1.5, 1.5A, 2.4
Lesson 12-2: Indirect Measurement	<b>U5 Sessions</b> 1.3, 1.5
Lesson 12-3: Using Units to Estimate and Measure Length	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 2.1, 2.2, 2.4
Lesson 12-4: More Measuring Length	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 2.1, 2.2, 2.4
Lesson 12-5: Problem Solving: Use Reasoning	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 2.1, 2.2, 2.4
Lesson 12-6: Measuring Using Different Units	<b>U5 Sessions</b> 1.5A, 2.2, 2.3
<b>Topic 13: Time</b>	
Lesson 13-1: Understanding the Hour and Minute Hands	<b>U5 Sessions</b> 1.5A, 3A.1
Lesson 13-2: Telling and Writing Time to the Hour	<b>U5 Sessions</b> 1.5A, 3A.1
Lesson 13-3: Telling and Writing Time to the Half Hour	<b>U5 Sessions</b> 1.5A, 3A.1
Lesson 13-4: Problem Solving: Use Data from a Table	Grade 1 students explore daily schedules and calendars. <b>U1 Sessions</b> 1.1, 1.2 <b>U5 Sessions</b> 1.5A, 3A.1

**Grade 1 Investigations Curriculum Units**

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|--|--|
| <b>U1</b> How Many of Each?                  | <b>U6</b> Number Games and Crayon Puzzles  |
| <b>U2</b> Making Shapes and Designing Quilts | <b>U7</b> Color, Shape, and Number Puzzles |
| <b>U3</b> Solving Story Problems             | <b>U8</b> Twos, Fives, and Tens            |
| <b>U4</b> What Would You Rather Be?          | <b>U9</b> Blocks and Boxes                 |
| <b>U5</b> Fish Lengths and Animal Jumps      |  |

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<b>Topic 14: Using Data to Answer Questions</b>	
Lesson 14-1: Lesson 1: Using Data from Real Graphs	<b>U4 Session 3.4A</b>
Lesson 14-2: Using Data from Picture Graphs	<b>U4 Sessions 1.1, 2.1, 2.4, 3.3</b>
Lesson 14-3: Using Data from Bar Graphs	<b>U4 Sessions 3.1, 3.4A</b>
Lesson 14-4: Collecting Data Using Tally Marks	<b>U4 Sessions 2.2, 3.2, 3.4A</b>
Lesson 14-5: Making Real Graphs	<b>U4 Session 3.4A</b>
Lesson 14-6: Making Picture Graphs	<b>U4 Sessions 1.1, 2.1, 2.4, 3.3</b>
Lesson 14-7: Problem Solving: Make a Graph	<b>U4 Sessions 1.1, 2.1, 2.4, 3.1, 3.3, 3.4A</b>
<b>Geometry</b>	
<b>Topic 15: Geometry</b>	
Lesson 15-1: Identifying Plane Shapes	<b>U2 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3</b>
Lesson 15-2: Problem Solving: Make an Organized List	<b>U2 Session 1.3</b>
Lesson 15-3: Properties of Plane Shapes	<b>U2 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3</b>
Lesson 15-4: Building with Shapes	<b>U2 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 3.1, 3.2, 3.3</b>
Lesson 15-5: Making New Shapes from Shapes	<b>U2 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 3.1, 3.2, 3.3</b>
Lesson 15-6: Identifying Solid Figures	<b>U9 Sessions 1.1, 1.2, 1.3, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.3A, 2.4, 2.5, 2.6, 2.7</b>

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

**U2** Making Shapes and Designing Quilts

**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes



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<b>enVisionMATH Common Core, ©2015 Grade 1</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 1</b>
Lesson 15-7: Flat Surfaces and Vertices	<b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.6, 1.7
Lesson 15-8: Sorting Solid Figures	<b>U9 Sessions</b> 1.3, 1.4, 1.6, 1.8
Lesson 15-9: Building with Solid Figures	<b>U9 Sessions</b> 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
Lesson 15-10: Problem Solving: Use Reasoning	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3 <b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.3A, 2.4, 2.5, 2.6, 2.7
<b>Topic 16: Fractions of Shapes</b>	
Lesson 16-1: Making Equal Parts	<b>U5 Sessions</b> 3A.1, 3A.2, 3A.3, 3A.4
Lesson 16-2: Describing Equal Parts of Whole Objects	<b>U5 Sessions</b> 3A.1, 3A.2, 3A.3, 3A.4
Lesson 16-3: Making Halves and Fourths of Rectangles and Circles	<b>U5 Sessions</b> 3A.1, 3A.2, 3A.3, 3A.4
Lesson 16-4: Problem Solving: Draw a Picture	<b>U5 Sessions</b> 3A.1, 3A.2, 3A.3, 3A.4

**Grade 1 Investigations Curriculum Units**

**U1** How Many of Each?

**U2** Making Shapes and Designing Quilts

**U3** Solving Story Problems

**U4** What Would You Rather Be?

**U5** Fish Lengths and Animal Jumps

**U6** Number Games and Crayon Puzzles

**U7** Color, Shape, and Number Puzzles

**U8** Twos, Fives, and Tens

**U9** Blocks and Boxes

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enVisionMATH Common Core, ©2015 Grade 2	Investigations in Number, Data, and Space, ©2012 Grade 2
<b>Operations and Algebraic Thinking</b>	
<b>Topic 1: Understanding Addition and Subtraction</b>	
Lesson 1-1: Writing Addition Number Sentences	<b>U1 Sessions</b> 4.1, 4.2, 4.4 <b>U2 Session</b> 1.1A <b>U3 Sessions</b> 1.1, 1.2, 1.4, 1.6, 2.1, 2.3, 2.4, 2.5, 2.6 <b>U8 Sessions</b> 4.1, 4.3, 4.4
Lesson 1-2: Stories About Joining	<b>U1 Sessions</b> 4.1, 4.4 <b>U3 Sessions</b> 2.1, 2.3, 2.5, 2.6 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.4 <b>U8 Session</b> 3.4
Lesson 1-3: Writing Subtraction Number Sentences	<b>U1 Sessions</b> 4.2, 4.3, 4.5 <b>U2 Session</b> 1.1A <b>U3 Sessions</b> 2.2, 2.3, 2.4, 2.5, 2.6 <b>U8 Sessions</b> 3.2, 3.3, 3.4
Lesson 1-4: Stories About Separating	<b>U1 Sessions</b> 4.3, 4.5 <b>U3 Sessions</b> 2.2, 2.3, 2.4, 2.5, 2.6 <b>U6 Sessions</b> 1.4, 2.1 <b>U8 Session</b> 3.4
Lesson 1-5: Stories About Comparing	<b>U1 Sessions</b> 1.1, 1.3, 1.4, 2.2
Lesson 1-6: Connecting Addition and Subtraction	<b>U2 Session</b> 1.1A <b>U3 Sessions</b> 2.3, 2.4, 2.6
Lesson 1-7: Problem Solving: Use Objects	<b>U1 Sessions</b> 4.1, 4.3, 4.4, 4.5 <b>U3 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.1

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
- U2** Shapes, Blocks, and Symmetry
- U3** Stickers, Number Strings, and Story Problems
- U4** Pockets, Teeth, and Favorite Things
- U5** How Many Floors? How Many Rooms?

- U6** How Many Tens? How Many Ones?
- U7** Parts of a Whole, Parts of a Group
- U8** Partners, Teams and Paper Clips
- U9** Measuring Length and Time

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<b>Topic 2: Addition Strategies</b>	
Lesson 2-1: Adding 0,1,2	<b>U1 Sessions</b> 2.6, 2.7, 2.8, 2.10A; Teacher Note (page 192)
Lesson 2-2: Doubles	<b>U1 Sessions</b> 4.6, 4.7; Teacher Note (page 192) <b>U2 Sessions</b> 1.2, 1.3, 1.4, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 2.10A <b>U3 Sessions</b> 1.4, 1.5, 1.6
Lesson 2-3: Near Doubles	<b>U1 Teacher Note</b> (page 192) <b>U3 Sessions</b> 1.2, 1.4, 1.5, 1.6
Lesson 2-4: Adding in Any Order	<b>U1 Sessions</b> 1.5, 3.5; Teacher Note (page 186) <b>U3 Sessions</b> 1.1, 1.6, 2.1, 2.2 <b>U6 Session</b> 1.1 <b>U8 Sessions</b> 4.1, 4.4
Lesson 2-5: Adding Three Numbers	<b>U1 Sessions</b> 2.1, 4.2 <b>U3 Sessions</b> 1.1, 1.2, 1.4, 1.5, 1.6 <b>U6 Dialogue Box</b> (page 183)
Lesson 2-6: Making 10 to Add	<b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5; Teacher Note (page 192); Dialogue Box (pages 214-215) <b>U3 Sessions</b> 1.2, 1.4 <b>U6 Sessions</b> 2.2
Lesson 2-7: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U1 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7 <b>U3 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.6, 4.4

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<b>Topic 3: Subtraction Strategies</b>	
Lesson 3-1: Subtracting 0,1,2	<b>U2 Session 2.10A</b> U8 Algebra Connections (page 17)
Lesson 3-2: Thinking Addition to Subtract Doubles	Grade 2 students think addition to subtract up to sums greater than 18. <b>U2 Session 2.10A</b> <b>U3 Sessions 2.2, 2.3, 2.6</b> <b>U6 Sessions 1.4, 2.4, 2.6</b> <b>U8 Sessions 3.1, 3.3</b>
Lesson 3-3: Thinking Addition to 10 to Subtract	Grade 2 students think addition to subtract up to sums greater than 18. <b>U2 Sessions 1.1A, 2.10A</b> <b>U3 Sessions 2.2, 2.3, 2.6</b> <b>U6 Sessions 1.4, 2.4, 2.6</b> <b>U8 Sessions 3.1, 3.3</b> <b>U9 Session 1.1A</b>
Lesson 3-4: Thinking Addition to 18 to Subtract	Grade 2 students think addition to subtract up to sums greater than 18. <b>U2 Sessions 1.1A, 2.10A</b> <b>U3 Sessions 2.2, 2.3, 2.6</b> <b>U6 Sessions 1.4, 2.4, 2.6</b> <b>U8 Sessions 3.1, 3.3</b> <b>U9 Session 1.1A</b>
Lesson 3-5: Making 10 to Subtract	<b>U6 Session 1.2</b>

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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Lesson 3-6: Problem Solving: Two-Question Problems	Two-question problems are not specifically referenced as such in the Investigations curriculum, but each Investigation is comprised of several Sessions containing related questions. For example, in Unit 3, Investigation 2, students Revisit Addition (Session 2.1) and Subtraction (Session 2.2) Story Problems, and then explore Related Story Problems (Session 2.3; in Unit 6, Investigation 3, students Collect \$1.00 in Session 3.2, and then Spend \$1.00 in Session 3.5.  Sample references: <b>U3 Sessions</b> 2.1, 2.2, 2.3 <b>U6 Sessions</b> 3.2, 3.5
<b>Topic 4: Working with Equal Groups</b>	
Lesson 4-1: Repeated Addition	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5 <b>U5 Sessions</b> 2.2, 2.3
Lesson 4-2: Building Arrays	<b>U1 Sessions</b> 4.7, 4.8 <b>U2 Sessions</b> 1.2, 1.3, 2.3, 2.4, 2.5, 2.6, 2.10A; Teacher Note (pages 157-158)
Lesson 4-3: Practicing Repeated Addition	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5 <b>U5 Sessions</b> 2.2, 2.3
Lesson 4-4: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5
<b>Number and Operations in Base Ten</b>	
<b>Topic 5: Place Value to 100</b>	
Lesson 5-1: Models for Tens and Ones	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4 <b>U3 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5 <b>U6 Sessions</b> 2.3, 2.4, 2.5, 3.6, 5A.2 <b>U8 Sessions</b> 4.3, 4.4

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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Lesson 5-2: Reading and Writing Numbers	<b>U1 Sessions</b> 1.3, 1.4, 1.5 <b>U3 Sessions</b> 4.2, 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 3.3, 5A.2 <b>U8 Session</b> 4.3
Lesson 5-3: Using Symbols to Compare Numbers	<b>U1 Sessions</b> 2.1, 2.6, 2.7 <b>U5 Session</b> 1.3 <b>U9 Session</b> 1.5
Lesson 5-4: Counting to 100	<b>U1 Sessions</b> 1.2, 1.3, 1.4, 2.6 <b>U3 Sessions</b> 3.6, 3.7, 4.1 <b>U5 Sessions</b> 2.2, 2.3 <b>U6 Sessions</b> 2.1, 3.1, 3.6, 4.1, 4.2, 4.3
Lesson 5-5: 10 More or 10 Less	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Session</b> 5A.1
Lesson 5-6: Even and Odd Numbers	<b>U3 Sessions</b> 3.1, 3.2, 3.3 <b>U8 Sessions</b> 1.1, 1.2, 1.3, 1.4
Lesson 5-7: Problem Solving: Use Data from a Chart	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4 <b>U3 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5 <b>U6 Sessions</b> 2.3, 2.4, 2.5, 3.6, 5A.2 <b>U8 Sessions</b> 4.3, 4.4
<b>Topic 6: Mental Addition</b>	
Lesson 6-1: Adding Tens	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5, 3.1, 3.2, 3.3
Lesson 6-2: Adding Ones	<b>U3 Sessions</b> 4.2, 4.3, 4.4, 4.5

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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Lesson 6-3: Adding Tens and Ones	<b>U3 Sessions</b> 4.1, 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 6-4: Adding on a Hundred Chart	<b>U1 Session</b> 1.4 <b>U6 Sessions</b> 1.2, 2.1, 2.3, 2.6, 5A.1
Lesson 6-5: Adding Multiples of 10	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5, 3.1, 3.2, 3.3, 4.3
Lesson 6-6: Problem Solving: Look for a Pattern	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 <b>U5 Sessions</b> 2.1, 2.2, 2.3, 2.4 <b>U6 Sessions</b> 2.1, 2.3, 3.3, 4.2
<b>Topic 7: Mental Subtraction</b>	
Lesson 7-1: Subtracting Tens	<b>U6 Sessions</b> 1.2, 1.4, 2.1
Lesson 7-2: Finding Parts of 100	<b>U6 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.3
Lesson 7-3: Subtracting on a Hundred Chart	Grade 2 students explore the Hundred Chart, including finding the interval between numbers on the chart. <b>U1 Session</b> 1.4 <b>U6 Sessions</b> 2.1, 2.3, 2.6, 5A.1
Lesson 7-4: Subtracting Multiples of 10	<b>U6 Sessions</b> 1.2, 1.4, 2.1

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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Lesson 7-5: Problem Solving: Missing or Extra Information	There are no specific references to solving problems with missing or extra information, but Grade 2 students must read and study problems closely to make sure they are answering the questions being asked.  Sample references: <b>U6 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.3
<b>Topic 8: Adding Two-Digit Numbers</b>	
Lesson 8-1: Regrouping 10 Ones for 1 Ten	<b>U3 Sessions</b> 4.1, 4.2, 4.5
Lesson 8-2: Models to Add Two- and One-Digit Numbers	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 8-3: Adding Two- and One-Digit Numbers	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 8-4: Models to Add Two-Digit Numbers	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 8-5: Adding Two-Digit Numbers	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)

**Grade 2 Investigations Curriculum Units**

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Lesson 8-6: Adding on a Number Line	<b>U3 Session</b> 4.3 <b>U6 Sessions</b> 1.2, 1.3, 2.2 <b>U8 Sessions</b> 4.1, 4.2, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 8-7: Adding More than Two Numbers	<b>U1 Session</b> 2.1 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5
Lesson 8-8: Ways to Add	<b>U3 Sessions</b> 4.3, 4.4, 4.5 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 4.1, 4.2, 4.3, 4.4; Teacher Note (pages 176-179); Dialogue Box (pages 202-203)
Lesson 8-9: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U1 Sessions</b> 4.1, 4.3, 4.4, 4.5 <b>U3 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 <b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.4 <b>U8 Session</b> 3.4
<b>Topic 9: Subtracting Two-Digit Numbers</b>	
Lesson 9-1: Regrouping 1 Ten for 10 Ones	<b>U3 Sessions</b> 4.1, 4.2, 4.5
Lesson 9-2: Models to Subtract Two- and One-Digit Numbers	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-3: Subtracting Two- and One-Digit Numbers	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-4: Models to Subtract Two-Digit Numbers	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-5: Subtracting Two-Digit Numbers	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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Lesson 9-6: Subtracting on a Number Line	<b>U6 Session</b> 1.4 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-7: Using Addition to Check Subtraction	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-8: Ways to Subtract	<b>U6 Sessions</b> 1.4, 2.1 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 9-9: Problem Solving: Two-Question Problems	Two-question problems are not specifically referenced as such in the Investigations curriculum, but each Investigation is comprised of several Sessions containing related questions. For example, in Unit 3, Investigation 2, students Revisit Addition (Session 2.1) and Subtraction (Session 2.2) Story Problems, and then explore Related Story Problems (Session 2.3; in Unit 6, Investigation 3, students Collect \$1.00 in Session 3.2, and then Spend \$1.00 in Session 3.5. Sample references: <b>U3 Sessions</b> 2.1, 2.2, 2.3 <b>U6 Sessions</b> 3.2, 3.5
<b>Topic 10: Place Value to 1,000</b>	
Lesson 10-1: Building 1,000	<b>U6 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 10-2: Counting Hundreds, Tens, and Ones	<b>U6 Sessions</b> 5A.2, 5A.3, 5A.4, 5A.5
Lesson 10-3: Reading and Writing Numbers to 1,000	<b>U6 Sessions</b> 5A.2, 5A.3, 5A.4, 5A.5
Lesson 10-4: Changing Numbers by Hundreds and Tens	<b>U6 Sessions</b> 5A.2, 5A.3, 5A.4, 5A.5

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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- U3** Stickers, Number Strings, and Story Problems
- U4** Pockets, Teeth, and Favorite Things
- U5** How Many Floors? How Many Rooms?

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- U8** Partners, Teams and Paper Clips
- U9** Measuring Length and Time

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<b>enVisionMATH Common Core, ©2015 Grade 2</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 2</b>
Lesson 10-5: Patterns with Numbers on Hundreds Charts	<b>U1 Session</b> 1.4 <b>U6 Sessions</b> 1.2, 2.1, 2.3, 2.6, 5A.1
Lesson 10-6: Skip Counting by 2, 5, 10, 100 to 1000	Grade 2 students skip count by 2s, 5s, and 10s to 100. <b>U6 Session</b> 4.2
Lesson 10-7: Comparing Numbers	<b>U1 Sessions</b> 2.1, 2.7 <b>U3 Sessions</b> 1.4, 1.5, 1.6 <b>U6 Session</b> 5A.1
Lesson 10-8: Problem Solving: Look for a Pattern	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 <b>U5 Sessions</b> 2.1, 2.2, 2.3, 2.4 <b>U6 Sessions</b> 2.1, 2.3, 3.3, 4.2, 5A.1
<b>Topic 11: Three-Digit Addition and Subtraction</b>	
Lesson 11-1: Exploring Adding Three-Digit Numbers	<b>U8 Sessions</b> 5A.1, 5A.2, 5A.5
Lesson 11-2: Mental Math	<b>U8 Sessions</b> 5A.1, 5A.2, 5A.5
Lesson 11-3: Estimating Sums	Students use mental math, modeling, and breaking apart strategies to add 3-digit numbers. <b>U8 Sessions</b> 5A.1, 5A.2, 5A.5
Lesson 11-4: Models for Adding with Three-Digit Numbers	<b>U8 Sessions</b> 5A.1, 5A.2, 5A.5
Lesson 11-5: Adding Three-Digit Numbers	<b>U8 Sessions</b> 5A.2, 5A.5
Lesson 11-6: Exploring Subtracting Three-Digit Numbers	<b>U8 Sessions</b> 5A.3, 5A.4, 5A.5

**Grade 2 Investigations Curriculum Units**

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<b>enVisionMATH Common Core, ©2015 Grade 2</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 2</b>
Lesson 11-7: Mental Math: Ways to Find Missing Parts	<b>U8 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 11-8: Estimating Differences	Students use mental math, modeling, and breaking apart strategies to subtract 3-digit numbers. <b>U8 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 11-9: Models for Subtracting with Three-Digit Numbers	<b>U8 Sessions</b> 5A.3, 5A.4, 5A.5
Lesson 11-10: Subtracting Three-Digit Numbers	<b>U8 Sessions</b> 5A.1, 5A.2, 5A.3, 5A.4, 5A.5
Lesson 11-11: Problem Solving: Use Logical Reasoning	<b>U3 Sessions</b> 3.1, 3.2, 3.3 <b>U8 Sessions</b> 1.1, 1.2, 1.3, 1.4, 5A.1, 5A.2, 5A.3, 5A.4, 5A.5
<b>Geometry</b>	
<b>Topic 12: Geometry</b>	
Lesson 12-1: Flat Surfaces, Vertices, and Edges	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5
Lesson 12-2: Relating Plane Shapes to Solid Figures	<b>U2 Sessions</b> 1.1, 1.2, 1.3
Lesson 12-3: Polygons and Angles	<b>U2 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
Lesson 12-4: Wholes and Equal Parts	<b>U7 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.3A, 2.4, 2.5
Lesson 12-5: Dividing Rectangles into Equal Squares	<b>U7 Sessions</b> 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5

**Grade 2 Investigations Curriculum Units**

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<b>enVisionMATH Common Core, ©2015 Grade 2</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 2</b>
Lesson 12-6: Equal Shares, Different Shapes	<b>U7 Sessions</b> 1.1, 2.1, 2.2, 2.3, 2.3A, 2.4
Lesson 12-7: Problem Solving: Use Reasoning	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
<b>Measurement and Data</b>	
<b>Topic 13: Counting Money</b>	
Lesson 13-1: Coins	<b>U1 Sessions</b> 2.2, 2.3, 2.4, 2.6, 2.7 <b>U3 Session</b> 3.5, 3.6, 3.7
Lesson 13-2: Counting Collections of Coins	<b>U1 Sessions</b> 2.2, 2.3, 2.4, 2.6, 2.7 <b>U3 Session</b> 3.5, 3.6, 3.7
Lesson 13-3: Ways to Show the Same Amount	<b>U1 Sessions</b> 2.4, 2.6, 2.7 <b>U3 Session</b> 3.5, 3.6, 3.7
Lesson 13-4: One Dollar	<b>U6 Sessions</b> 3.2, 3.3, 3.4, 3.5, 3.6
Lesson 13-5: Problem Solving: Make an Organized List	<b>U1 Sessions</b> 2.4, 2.6, 2.7 <b>U3 Session</b> 3.5, 3.6, 3.7
<b>Topic 14: Money</b>	
Lesson 14-1: Adding Money	<b>U1 Sessions</b> 2.4, 2.6, 2.7 <b>U3 Session</b> 3.5, 3.6, 3.7 <b>U6 Sessions</b> 3.2, 3.3, 3.4, 4.3
Lesson 14-2: Subtracting Money	<b>U6 Sessions</b> 3.5, 3.6
Lesson 14-3: Estimating Sums and Differences	Grade 2 students estimate the total number of pockets their class is wearing on a given day. <b>U1 Sessions</b> 2.5, 4.2; Dialogue Box (page 221) <b>U3 Session</b> 3.4 <b>U6 Session</b> 4.3

**Grade 2 Investigations Curriculum Units**

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<b>enVisionMATH Common Core, ©2015 Grade 2</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 2</b>
Lesson 14-4: Problem Solving: Try, Check, and Revise	When estimating or predicting outcomes, students are then provided with means of improving the reasonableness and accuracy of their estimates and predictions. <b>U1 Sessions</b> 2.5, 4.2; Dialogue Box (page 221) <b>U3 Session</b> 3.4 <b>U6 Session</b> 4.3 <b>U9 Sessions</b> 1.2, 1.3
<b>Topic 15: Measuring Length</b>	
Lesson 15-1: Exploring Length	<b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 15-2: Inches	<b>U9 Sessions</b> 2.1, 2.2, 2.3
Lesson 15-3: Centimeters	<b>U9 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 15-4: Inches, Feet, and Yards	<b>U9 Sessions</b> 2.1, 2.2, 2.3
Lesson 15-5: Centimeters and Meters	<b>U9 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 15-6: Measuring Length	<b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 15-7: Adding and Subtracting in Measurement	<b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 15-8: Comparing Lengths	<b>U9 Sessions</b> 1.3, 1.4, 1.5, 1.6, 2.2, 3.2
Lesson 15-9: Problem Solving: Use Objects	<b>U9 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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enVisionMATH Common Core, ©2015 Grade 2	Investigations in Number, Data, and Space, ©2012 Grade 2
<b>Topic 16: Time, Graphs, and Data</b>	
Lesson 16-1: Telling Time to Five Minutes	Grade 2 students tell time on an analog clock to the nearest hour as part of their daily routine. They also read timelines and explore related concepts, including duration. <b>U1 Session 1.1</b> <b>U9 Sessions 4.1, 4.2, 4.3, 4.4, 4.5, 4.6</b>
Lesson 16-2: Telling Time Before and After the Hour	Grade 2 students tell time on an analog clock to the nearest hour as part of their daily routine. They also read timelines and explore related concepts, including duration. <b>U1 Session 1.1</b> <b>U9 Sessions 4.1, 4.2, 4.3, 4.4, 4.5, 4.6</b>
Lesson 16-3: Organizing Data	<b>U4 Sessions 1.3A, 1.5, 1.6, 2.2, 2.3, 2.4, 2.5, 2.6</b>
Lesson 16-4: Graphing Lengths	Grade 2 students represent data involving pockets and teeth in picture graphs, bar graphs, and line plots. <b>U4 Sessions 1.1, 2.2, 2.7; Teacher Note (pages 112, 124-125)</b>
Lesson 16-5: Pictographs	Grade 2 students represent data involving pockets and teeth in picture graphs, bar graphs, and line plots. <b>U4 Sessions 1.1, 2.2, 2.7; Teacher Note (pages 112, 124-125)</b>
Lesson 16-6: Problem Solving: Use a Graph	Grade 2 students represent data involving pockets and teeth in picture graphs, bar graphs, and line plots. <b>U4 Sessions 1.1, 1.4A, 2.2, 2.7; Teacher Note (pages 112, 124-125); Resource Master M58 (see TE page 129)</b>

**Grade 2 Investigations Curriculum Units**

- U1** Counting, Coins, and Combinations
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enVisionMATH Common Core, ©2015 Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<b>Number and Operations in Base Ten</b>	
<b>Topic 1: Numeration</b>	
Lesson 1-1: Representing Numbers	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.8, 2.1, 2.4, 2.7 <b>U3 Sessions</b> 1.1, 1.2, 1.4, 1.5, 2.1, 2.2 <b>U5 Sessions</b> 2.1, 3.2
Lesson 1-2: Understanding Number Lines	<b>U1 Sessions</b> 1.1, 1.3, 1.4, 2.6; Teacher Note (pages 147-148) <b>U3 Sessions</b> 2.1, 2.6, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 4.4, 4.5
Lesson 1-3: Counting on the Number Line	<b>U1 Sessions</b> 1.1, 1.3, 1.4, 2.6; Teacher Note (pages 147-148) <b>U3 Sessions</b> 2.1, 2.6, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 4.4, 4.5
Lesson 1-4: Finding the Halfway Number	Grade 3 students find the median of a set of numbers. <b>U2 Introduction</b> (page 13); Session 2.2; Teacher Notes (pages 166, 167, 170)
Lesson 1-5: Rounding	<b>U3 Session</b> 1.7A
Lesson 1-6: More Rounding	<b>U3 Session</b> 1.7A
Lesson 1-7: Problem Solving: Make an Organized List	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.8, 2.1, 2.4, 2.7
<b>Topic 2: Number Sense: Addition and Subtraction</b>	
Lesson 2-1: Addition Meaning and Properties	<b>U1 Sessions</b> 1.2, 1.5, 2.1, 2.6 <b>U3 Sessions</b> 2.5, 2.6 <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4
Lesson 2-2: Subtraction Meanings	<b>U1 Sessions</b> 1.2, 1.5 <b>U3 Sessions</b> 3.1, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6

**Grade 3 Investigations Curriculum Units**

**U1** Trading Stickers, Combining Coins  
**U2** Surveys and Line Plots  
**U3** Collections and Travel Stories  
**U4** Perimeter, Angles, and Area  
**U5** Equal Groups

**U6** Stories, Tables, and Graphs  
**U7** Finding Fair Shares  
**U8** How Many Hundreds? How Many Miles?  
**U9** Solids and Boxes



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<b>enVisionMATH Common Core, ©2015 Grade 3</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 3</b>
Lesson 2-3: Using Mental Math to Add	<b>U1 Sessions</b> 1.2, 1.5, 2.1 <b>U3 Sessions</b> 2.5, 2.6 <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4
Lesson 2-4: Using Mental Math to Subtract	<b>U1 Sessions</b> 1.2, 1.5 <b>U3 Sessions</b> 3.1, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5 <b>U8 Sessions</b> 3.3, 3.4, 3.5, 3.6, 3.7, 3.8
Lesson 2-5: Estimating Sums	<b>U3 Session</b> 2.2
Lesson 2-6: Estimating Differences	<b>U8 Sessions</b> 1.3, 3.1, 3.2
Lesson 2-7: Problem Solving: Reasonableness	<b>U1 Session</b> 2.3 <b>U3 Session</b> 1.5, 2.2 <b>U8 Sessions</b> 1.3, 3.1, 3.2
<b>Topic 3: Using Place Value to Add and Subtract</b>	
Lesson 3-1: Adding with an Expanded Algorithm	<b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 3-2: Models for Adding 3-Digit Numbers	<b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 3-3: Adding 3-Digit Numbers	<b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 3-4: Adding 3 or More Numbers	<b>U8 Sessions</b> 2.4, 2.5
Lesson 3-5: Problem Solving: Draw a Picture	<b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 3-6: Subtracting with an Expanded Algorithm	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9
Lesson 3-7: Models for Subtracting 3-Digit Numbers	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9

**Grade 3 Investigations Curriculum Units**

**U1** Trading Stickers, Combining Coins  
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Lesson 3-8: Subtracting 3-Digit Numbers	<b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9
Lesson 3-9: Subtracting Across Zero	<b>U8 Sessions</b> 3.2, 3.4, 3.5
Lesson 3-10: Making Sense of Addition Equations	<b>U1 Session</b> 2.6 <b>U3 Sessions</b> 2.1, 2.2, 2.5, 2.6 <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4
Lesson 3-11: Making Sense of Subtraction Equations	<b>U3 Sessions</b> 3.4, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5 <b>U8 Sessions</b> 3.1, 3.2, 3.4, 3.5, 3.6, 3.7, 3.8
Lesson 3-12: Adding and Subtracting	<b>U1 Session</b> 2.6 <b>U3 Sessions</b> 2.1, 2.2, 2.5, 2.6, 3.4, 3.7, 4.1 <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.4
Lesson 3-13: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U1 Session</b> 2.6 <b>U3 Sessions</b> 2.1, 2.2, 2.5, 2.6, 3.4, 3.7, 4.1 <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.4
<b>Operations and Algebraic Thinking</b>	
<b>Topic 4: Meanings of Multiplication</b>	
Lesson 4-1: Multiplication as Repeated Addition	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4
Lesson 4-2: Arrays and Multiplication	<b>U5 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6
Lesson 4-3: The Commutative Property	<b>U5 Introduction and Overview</b> (page 12); Algebra Connections (page 16); Session 3.1
Lesson 4-4: Writing Multiplication Stories	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.3
Lesson 4-5: Problem Solving: Writing to Explain	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.3

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**U1** Trading Stickers, Combining Coins  
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<b>Topic 5: Multiplication Facts: Use Patterns</b>	
Lesson 5-1: 2 and 5 as Factors	<b>U5 Sessions</b> 2.1, 2.2; Teacher Notes (pages 152-153, 160-162); Dialogue Boxes (page 170, 171-172)
Lesson 5-2: 9 as a Factor	<b>U5 Teacher Note</b> (pages 161-163)
Lesson 5-3: Multiplying with 0 and 1	<b>U5 Sessions</b> 3.5; Teacher Note (pages 160-162)
Lesson 5-4: Patterns for Facts	<b>U5 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.7A
Lesson 5-5: 10 as a Factor	<b>U5 Sessions</b> 2.1, 2.2, 3.7A; Teacher Notes (pages 152-153, 160-162); Dialogue Boxes (page 170, 171-172)
Lesson 5-6: Multiplying by Multiples of 10	<b>U5 Sessions</b> 2.1, 2.2, 3.7A; Teacher Notes (pages 152-153, 160-162); Dialogue Boxes (page 170, 171-172)
Lesson 5-7: Problem Solving: Two-Question Problems	In addition to solving multistep problems, each Investigation is comprised of several Sessions containing related questions. For example, in Unit 3, Investigation 2, students practice Addition Starter Problems in Sessions 2.4 and 2.5, leading to Solving Addition Problems in Session 2.6. Sample references: <b>U3 Sessions</b> 2.4, 2.5, 2.6 <b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.3 <b>U8 Sessions</b> 3.7, 3.8
<b>Topic 6: Multiplication Facts: Use Known Facts</b>	
Lesson 6-1: The Distributive Property	<b>U5 Introduction and Overview</b> (page 12); Algebra Connections (pages 16-17); Session 3.5

**Grade 3 Investigations Curriculum Units**

- U1** Trading Stickers, Combining Coins
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- U5** Equal Groups

- U6** Stories, Tables, and Graphs
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Lesson 6-2: 3 as a Factor	<b>U5 Sessions</b> 2.2, 2.5; Teacher Note (pages 160-162); Dialogue Box (pages 171-172)
Lesson 6-3: 4 as a Factor	<b>U5 Teacher Note</b> (pages 160-162)
Lesson 6-4: 6 and 7 as Factors	<b>U5 Sessions</b> 2.2, 2.5; Teacher Note (pages 160-162); Dialogue Box (pages 171-172)
Lesson 6-5: 8 as a Factor	<b>U5 Teacher Note</b> (pages 160-162)
Lesson 6-6: Multiplying with 3 Factors	<b>U5 Sessions</b> 1.4, 2.5
Lesson 6-7: Multiplication Facts	<b>U5 Sessions</b> 2.1, 2.2, 2.4, 2.6, 3.5, 3.5A, 3.5B
Lesson 6-8: Multiplying to Find Combinations	<b>U5 Sessions</b> 2.6, 3.5, 3.5A, 3.5B
Lesson 6-9: Problem Solving: Multiple-Step Problems	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.3 <b>U8 Sessions</b> 3.7, 3.8
<b>Topic 7: Meanings of Division</b>	
Lesson 7-1: Division as Sharing	<b>U5 Introduction and Overview</b> (pages 12-13); Sessions 4.1, 4.2, 4.3; Teacher Note (pages 163-164)
Lesson 7-2: Division as Repeated Subtraction	<b>U5 Introduction and Overview</b> (pages 12-13); Sessions 4.1, 4.2, 4.3
Lesson 7-3: Finding Missing Numbers in a Multiplication Table	<b>U5 Session</b> 4.4
Lesson 7-4: Problem Solving: Choose an Appropriate Equation	<b>U5 Sessions</b> 4.5, 4.6

**Grade 3 Investigations Curriculum Units**

- U1** Trading Stickers, Combining Coins
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- U3** Collections and Travel Stories
- U4** Perimeter, Angles, and Area
- U5** Equal Groups

- U6** Stories, Tables, and Graphs
- U7** Finding Fair Shares
- U8** How Many Hundreds? How Many Miles?
- U9** Solids and Boxes

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<b>enVisionMATH Common Core, ©2015 Grade 3</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 3</b>
Lesson 7-5: Writing Division Stories	<b>U5 Introduction and Overview</b> (pages 12-13); Sessions 4.1, 4.2, 4.3
Lesson 7-6: Problem Solving: Use Objects and Draw a Picture	<b>U5 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6
<b>Topic 8: Division Facts</b>	
Lesson 8-1: Relating Multiplication and Division	<b>U5 Session</b> 4.4
Lesson 8-2: Fact Families with 2, 3, 4 and 5	<b>U5 Sessions</b> 2.1, 2.2, 2.4, 2.6, 3.5, 4.4
Lesson 8-3: Fact Families with 6 and 7	<b>U5 Sessions</b> 2.1, 2.2, 2.4, 2.6, 3.5, 4.4
Lesson 8-4: Fact Families with 8 and 9	<b>U5 Sessions</b> 2.1, 2.2, 2.4, 2.6, 3.5, 4.4
Lesson 8-5: Problem Solving: Multiple-Step Problems	<b>U5 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 <b>U8 Sessions</b> 3.7, 3.8
Lesson 8-6: Making Sense of Multiplication and Division Equations	<b>U5 Sessions</b> 1.3, 2.3, 4.1, 4.3, 4.5, 4.6
Lesson 8-7: Dividing with 0 and 1	There are no specific references to division by 0 or 1. The following references are to multiplication by 0 or 1. <b>U5 Sessions</b> 3.5; Teacher Note (pages 160-162)
Lesson 8-8: Multiplication and Division Facts	<b>U5 Sessions</b> 2.1, 2.2, 2.4, 2.6, 3.5, 4.4
Lesson 8-9: Problem Solving: Draw a Picture and Write a Number Sentence	<b>U5 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6

**Grade 3 Investigations Curriculum Units**

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enVisionMATH Common Core, ©2015 Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<b>Number and Operations - Fractions</b>	
<b>Topic 9: Understanding Fractions</b>	
Lesson 9-1: Dividing Regions into Equal Parts	<b>U7 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4
Lesson 9-2: Fractions and Regions	<b>U7 Sessions</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4
Lesson 9-3: Fractions and Sets	<b>U7 Sessions</b> 1.4, 1.5, 1.6
Lesson 9-4: Fractional Parts of a Set	<b>U7 Sessions</b> 1.4, 1.5, 1.6
Lesson 9-5: Fraction Number Lines	<b>U7 Sessions</b> 1.4A, 1.4B
Lesson 9-6: Locating Fractions on the Number Line	<b>U7 Sessions</b> 1.4A, 1.4B
Lesson 9-7: Fractions and Length	<b>U2 Sessions</b> 3.3
Lesson 9-8: Problem Solving: Writing to Explain	Grade 3 students communicate verbally in every investigation in the series by either writing or responding orally to questions about patterns, problems, or solution strategies. Sample references: <b>U7 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
<b>Topic 10: Fraction Comparison and Equivalence</b>	
Lesson 10-1: Using Models to Compare Fractions: Same Denominator	<b>U7 Sessions</b> 1.3, 1.5
Lesson 10-2: Using Models to Compare Fractions: Same Numerator	<b>U7 Sessions</b> 1.2
Lesson 10-3: Using Fractions	<b>U7 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4

**Grade 3 Investigations Curriculum Units**

- U1** Trading Stickers, Combining Coins
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<b>enVisionMATH Common Core, ©2015 Grade 3</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 3</b>
Lesson 10-4: Comparing Fractions on the Number Line	<b>U7 Session 1.4B</b>
Lesson 10-5: Finding Equivalent Fractions	<b>U7 Sessions 2.2, 2.3, 2.4, 3.3, 1.4A, 1.4B</b>
Lesson 10-6: Equivalent Fractions and the Number Line	<b>U7 Sessions 1.4A, 1.4B</b>
Lesson 10-7: Whole Numbers and Fractions	<b>U7 Sessions 1.4A, 1.4B, 1.5, 2.1, 2.4</b>
Lesson 10-8: Problem Solving: Draw a Picture	<b>U7 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 3.1</b>
<b>Geometry</b>	
<b>Topic 11: Two-Dimensional Shapes and Their Attributes</b>	
Lesson 11-1: Polygons	<b>U4 Sessions 2.3, 3.1, 3.2, 3.3, 3.5</b> <b>U7 Sessions 2.1, 2.2, 2.4</b>
Lesson 11-2: Quadrilaterals	<b>U4 Session 3.3</b>
Lesson 11-3: Classifying Shapes	<b>U4 Sessions 2.3, 3.1, 3.2, 3.3, 3.5</b>
Lesson 11-4: Problem Solving: Make and Test Generalizations	U3 Algebra Connections (pages 18-19); Session 3.1 <b>U4 Sessions 2.3, 3.1, 3.2, 3.3, 3.5</b> <b>U5 Session 2.4</b> <b>U8 Sessions 1.5, 2.1; Teacher Note (pages 168-170)</b>
Lesson 11-5: Problem Solving: Solve a Simpler Problem	<b>U8 Session 2.1</b>
<b>Measurement and Data</b>	
<b>Topic 12: Time</b>	
Lesson 12-1: Time to the Half Hour and Quarter Hour	<b>U3 Sessions 1.7A, 3.1</b>

**Grade 3 Investigations Curriculum Units**

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<b>enVisionMATH Common Core, ©2015 Grade 3</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 3</b>
Lesson 12-2: Time to the Minute	<b>U3 Sessions</b> 1.7A, 3.1
Lesson 12-3: Elapsed Time	<b>U3 Session</b> 3.1
Lesson 12-4: Problem Solving: Work Backward	<b>U3 Sessions</b> 1.7A, 3.1
<b>Topic 13: Perimeter</b>	
Lesson 13-1: Understanding Perimeter	<b>U4 Sessions</b> 1.2, 1.3, 1.4, 1.5
Lesson 13-2: Perimeter of Common Shapes	<b>U4 Sessions</b> 1.2, 1.3, 1.4, 1.5
Lesson 13-3: Perimeter and Unknown Side Lengths	<b>U4 Sessions</b> 1.2, 1.3, 1.4, 1.5
Lesson 13-4: Different Shapes with the Same Perimeter	<b>U4 Sessions</b> 1.2, 1.3, 1.4, 1.5
Lesson 13-5: Problem Solving: Solve a Simpler Problem and Make a Table	<b>U4 Sessions</b> 1.2, 1.3, 1.4, 1.5
<b>Topic 14: Area</b>	
Lesson 14-1: Covering Regions	<b>U4 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1A
Lesson 14-2: Area and Units	<b>U4 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1A
Lesson 14-3: Standard Units	<b>U4 Sessions</b> 2.3, 2.4, 2.5, 2.6, 3.1A
Lesson 14-4: Area of Squares and Rectangles	<b>U4 Session</b> 2.3, 3.1A
Lesson 14-5: Area and the Distributive Property	<b>U5</b> Introduction and Overview (page 12); Algebra Connections (pages 16-17); <b>Sessions</b> 3.5, 3.5A, 3.5B

**Grade 3 Investigations Curriculum Units**

**U1** Trading Stickers, Combining Coins  
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Lesson 14-6: Problem Solving: Solve a Simpler Problem	<b>U8 Session 2.1</b>
Lesson 14-7: Area of Irregular Shapes	<b>U4 Sessions 2.1, 2.2, 2.4, 2.5, 2.6</b>
Lesson 14-8: Different Area, Same Perimeter	<b>U4 Session 2.5A</b> <b>U4 Sessions 1.4, 2.3, 2.4, 2.5, 2.6</b>
Lesson 14-9: Same Area, Different Perimeter	<b>U4 Session 2.5A</b> <b>U4 Session 2.4</b>
Lesson 14-10: Equal Areas and Fractions	<b>U4 Sessions 2.1, 2.2, 2.3, 2.4</b>
Lesson 14-11: Problem Solving: Selecting Appropriate Measurement Units and Tools	<b>U3 Sessions 3.4, 3.6, 3.7, 4.1</b> <b>U4 Sessions 1.1, 1.2, 1.3, 1.4, 1.5</b> <b>U6 Sessions 1.1, 1.2, 1.3, 1.4, 1.5</b> <b>U8 Session 3.2</b>
<b>Topic 15: Liquid Volume and Mass</b>	
Lesson 15-1: Metric Units of Capacity	<b>U9 Sessions 4A.1, 4A.3</b>
Lesson 15-2: Measuring Capacity	<b>U9 Sessions 4A.1, 4A.3</b>
Lesson 15-3: Units of Mass	<b>U9 Sessions 4A.2, 4A.3</b>
Lesson 15-4: Measuring Mass	<b>U9 Sessions 4A.2, 4A.3</b>
Lesson 15-5: Problem Solving: Draw a Picture	<b>U7 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 3.1</b>

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<b>Topic 16: Data</b>	
Lesson 16-1: Line Plots	<b>U2 Sessions</b> 2.1, 2.2, 2.4, 2.5, 3.1, 3.3, 3.4 <b>U6 Teacher Note</b> (page 117)
Lesson 16-2: Length and Line Plots	<b>U2 Sessions</b> 3.1, 3.3, 3.4
Lesson 16-3: Reading Pictographs and Bar Graphs	<b>U2 Sessions</b> 1.1, 1.4, 1.5, 1.6, 2.4, 2.5
Lesson 16-4: Making Pictographs	<b>U2 Session</b> 2.3A
Lesson 16-5: Making Bar Graphs	<b>U2 Sessions</b> 1.1, 1.4, 1.5, 1.6, 2.4, 2.5
Lesson 16-6: Problem Solving: Use Tables and Graphs to Draw Conclusions	<b>U2 Sessions</b> 1.2, 1.3, 1.4, 1.5, 1.6, 2.3A, 2.4, 2.5, 2.7

**Grade 3 Investigations Curriculum Units**

- U1** Trading Stickers, Combining Coins
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enVisionMATH Common Core, ©2015 Grade 4	Investigations in Number, Data, and Space, ©2012 Grade 4
<b>Operations and Algebraic Thinking</b>	
<b>Topic 1: Multiplication and Division: Meanings and Facts</b>	
Lesson 1-1: Meanings of Multiplication	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5
Lesson 1-2: Patterns for Facts	<b>U1 Sessions</b> 2.1, 2.2, 2.3, 2.4
Lesson 1-3: Multiplication Properties	<b>U8 Algebra Connections</b> (pages 16-19); Sessions 1.2, 1.3
Lesson 1-4: 3, 4, 6, 7, and 8 as Factors	<b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 1-5: Multiplication as Comparison	<b>U1 Session</b> 1.6A
Lesson 1-6: Meanings of Division	<b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6
Lesson 1-7: Comparison Problems	<b>U1 Session</b> 1.6A
Lesson 1-8: Special Quotients	There are no references in the Grade 4 series to "special quotients." The students encounter different possibilities for the solution of a division problem (whole number, whole number with remainder, etc.) The following references are to division computation. <b>U3 Sessions</b> 2.1, 2.2, 2.4, 2.5 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 1-9: Using Multiplication Facts to Find Division Facts	<b>U1 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4
Lesson 1-10: Problem Solving: Draw a Picture and Write an Equation	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6A, 3.1, 3.2, 3.3, 3.4 <b>U8 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6

**Grade 4 Investigations Curriculum Units**

**U1** Factors, Multiples, and Arrays

**U2** Describing the Shape of the Data

**U3** Multiple Towers and Division Stories

**U4** Size, Shape, and Symmetry

**U5** Landmarks and Large Numbers

**U6** Fraction Cards and Decimal Squares

**U7** Moving Between Solids and Silhouettes

**U8** How Many Packages? How Many Groups?

**U9** Penny Jars and Plant Growth

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enVisionMATH Common Core, ©2015 Grade 4	Investigations in Number, Data, and Space, ©2012 Grade 4
<b>Topic 2: Generate and Analyze Patterns</b>	
Lesson 2-1: Repeating Patterns	<b>U1 Session 1.4</b> <b>U7 Sessions 3.1, 3.2</b> <b>U9 Dialogue Box</b> (pages 154-155)
Lesson 2-2: Number Sequences	<b>U5 Session 1.2</b> <b>U9 Dialogue Box</b> (pages 154-155)
Lesson 2-3: Extending Tables	<b>U9 Sessions 1.1, 2.2, 2.3, 2.4, 2.5, 2.8, 3.1, 3.4, 3.5</b>
Lesson 2-4: Writing Rules for Situations	<b>U9 Sessions 1.1, 2.2, 2.3, 2.4, 2.5, 2.8, 3.1, 3.4, 3.5</b>
Lesson 2-5: Geometric Patterns	<b>U1 Session 1.4</b> <b>U7 Sessions 3.1, 3.2</b> <b>U9 Dialogue Box</b> (pages 154-155)
Lesson 2-6: Problem Solving: Act It Out and Use Reasoning	<b>U5 Introduction and Overview</b> (pages 18-19); <b>Teacher Note</b> (pages 174-176) <b>U7 Session 1.4; Dialogue Box</b> (pages 113-114)
<b>Number and Operations in Base Ten</b>	
<b>Topic 3: Place Value</b>	
Lesson 3-1: Representing Numbers	<b>U5 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3</b>
Lesson 3-2: Place Value Relationships	<b>U5 Sessions 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5</b>
Lesson 3-3: Comparing Numbers	<b>U2 Sessions 1.4, 1.5, 2.2, 2.6</b>
Lesson 3-4: Comparing Greater Numbers	<b>U2 Sessions 1.4, 1.5, 2.2, 2.6</b>

**Grade 4 Investigations Curriculum Units**

- U1** Factors, Multiples, and Arrays
- U2** Describing the Shape of the Data
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- U5** Landmarks and Large Numbers

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Lesson 3-5: Rounding Whole Numbers	<b>U5 Session</b> 2.5 <b>U8 Session</b> 1.1, 1.2 <b>U9 Sessions</b> 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)
Lesson 3-6: Problem Solving: Make an Organized List	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5
<b>Topic 4: Addition and Subtraction of Whole Numbers</b>	
Lesson 4-1: Using Mental Math to Add and Subtract	<b>U5 Sessions</b> 1.4, 1.6, 2.1, 2.2, 2.3, 2.4, 4.2, 4.3; Teacher Notes (pages 168, 171-172, 173, 183-185); Dialogue Boxes (pages 196, 197)
Lesson 4-2: Estimating Sums and Differences of Whole Numbers	<b>U5 Session</b> 2.5
Lesson 4-3: Adding Whole Numbers	<b>U5 Sessions</b> 1.6, 2.1, 2.2, 2.3, 2.4, 2.6, 3.5, 4.4, 4.5, 4.6
Lesson 4-4: Subtracting Whole Numbers	<b>U5 Sessions</b> 1.6, 4.1, 4.2, 4.4, 4.4A, 4.5, 4.6
Lesson 4-5: Subtracting Across Zeroes	There are no specific references in Grade 4 to subtracting across zeroes. The following references are to subtracting multi-digit whole numbers. <b>U5 Sessions</b> 1.6, 4.1, 4.2, 4.4, 4.4A, 4.5, 4.6
Lesson 4-6: Problem Solving: Draw a Picture and Write an Equation	<b>U5 Sessions</b> 1.6, 2.1, 2.2, 2.3, 2.4, 2.6, 3.5, 4.1, 4.2, 4.4, 4.5, 4.6
<b>Topic 5: Number Sense: Multiplying by 1-Digit Numbers</b>	
Lesson 5-1: Arrays and Multiplying by 10 and 100	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.1, 3.2, 3.3, 3.4

**Grade 4 Investigations Curriculum Units**

**U1** Factors, Multiples, and Arrays

**U2** Describing the Shape of the Data

**U3** Multiple Towers and Division Stories

**U4** Size, Shape, and Symmetry

**U5** Landmarks and Large Numbers

**U6** Fraction Cards and Decimal Squares

**U7** Moving Between Solids and Silhouettes

**U8** How Many Packages? How Many Groups?

**U9** Penny Jars and Plant Growth

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Lesson 5-2: Multiplying by Multiples of 10 and 100	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4
Lesson 5-3: Breaking Apart to Multiply	<b>U3 Algebra Connections</b> (pages 16-17); Sessions 1.1, 1.2, 1.3, 1.4, 2.2, 4.2, 4.4 <b>U8 Introduction and Overview</b> (pages 10-11); Algebra Connections (pages 16-17); Sessions 1.2, 1.4, 1.5, 2.3, 2.4; Teacher Notes (pages 113, 115-116)
Lesson 5-4: Using Mental Math to Multiply	<b>U1 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5 <b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 5-5: Using Rounding to Estimate	<b>U5 Session</b> 2.5 <b>U8 Sessions</b> 1.1, 1.2 <b>U9 Sessions</b> 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)
Lesson 5-6: Problem Solving: Reasonableness	<b>U7 Session</b> 1.4; Dialogue Box (pages 113-114) <b>U8 Sessions</b> 1.2, 3.5
<b>Topic 6: Developing Fluency: Multiplying by 1-Digit Numbers</b>	
Lesson 6-1: Arrays and Using an Expanded Algorithm	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.1, 3.2, 3.3, 3.4
Lesson 6-2: Connecting the Expanded and Standard Algorithms	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 6-3: Multiplying 2-Digit by 1-Digit Numbers	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 6-4: Multiplying 3- and 4-Digit by 1-Digit Numbers	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5

**Grade 4 Investigations Curriculum Units**

- U1** Factors, Multiples, and Arrays
- U2** Describing the Shape of the Data
- U3** Multiple Towers and Division Stories
- U4** Size, Shape, and Symmetry
- U5** Landmarks and Large Numbers

- U6** Fraction Cards and Decimal Squares
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Lesson 6-5: Multiplying by 1-Digit Numbers	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 6-6: Problem Solving: Missing or Extra Information	There are no specific references to solving problems with missing or extra information, but Grade 4 students must read and study problems closely to make sure they are answering the questions being asked. Sample references: <b>U1 Session</b> 1.6A <b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
<b>Topic 7: Number Sense: Multiplying by 2-Digit Numbers</b>	
Lesson 7-1: Arrays and Multiplying 2-Digit Numbers by Multiples of 10	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.1, 3.2, 3.3, 3.4
Lesson 7-2: Using Mental Math to Multiply 2-Digit Numbers	<b>U3 Sessions</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 7-3: Using Rounding to Estimate	<b>U5 Session</b> 2.5 U8 Sessions 1.1, 1.2, 3.5 <b>U9 Sessions</b> 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)
Lesson 7-4: Using Compatible Numbers to Estimate	Grade 4 students use rounding and other estimation strategies. <b>U5 Session</b> 2.5 <b>U8 Sessions</b> 1.1, 1.2, 3.5 <b>U9 Sessions</b> 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)

**Grade 4 Investigations Curriculum Units**

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<b>enVisionMATH Common Core, ©2015 Grade 4</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 4</b>
Lesson 7-5: Problem Solving: Multiple-Step Problems	There are no specific references to multiple-step problems, but each investigation is comprised of multiple sessions which contribute to teaching a larger concept or solving a larger problem.  Sample references: <b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5
<b>Topic 8: Developing Fluency: Multiplying by 2-Digit Numbers</b>	
Lesson 8-1: Arrays and Multiplying 2-Digit Numbers	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.1, 3.2, 3.3, 3.4
Lesson 8-2: Arrays and an Expanded Algorithm	<b>U1 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.1, 3.2, 3.3, 3.4
Lesson 8-3: Multiplying 2-Digit Numbers by Multiples of Ten	<b>U3 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5
Lesson 8-4: Multiplying 2-Digit by 2-Digit Numbers	<b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5
Lesson 8-5: Problem Solving: Two-Question Problems	There are no specific references to two-question problems, but one multiplication strategy is to reduce larger problems to smaller, “starter” problems.  Sample references: <b>U8 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5
<b>Topic 9: Number Sense: Dividing by 1-Digit Divisors</b>	
Lesson 9-1: Using Mental Math to Divide	<b>U3 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
Lesson 9-2: Estimating Quotients	<b>U8 Session</b> 3.5 U9 Ten-Minute Math (page 20); Sessions 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)

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<b>enVisionMATH Common Core, ©2015 Grade 4</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 4</b>
Lesson 9-3: Estimating Quotients for Greater Dividends	<b>U8 Session 3.5</b> U9 Ten-Minute Math (page 20); Sessions 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, 3.3 (Ten-Minute Math)
Lesson 9-4: Dividing with Remainders	<b>U3 Session 2.2</b> ; Teacher Note (page 162) <b>U8 Sessions 3.2, 3.5</b>
Lesson 9-5: Multiplication and Division Stories	<b>U3 Sessions 1.1, 2.1, 2.3, 2.4, 3.3</b> <b>U8 Sessions 2.2, 2.4, 2.5, 3.1, 3.2, 3.5</b>
Lesson 9-6: Problem Solving: Draw a Picture and Write an Equation	<b>U3 Sessions 1.1, 2.1, 2.3, 2.4, 3.3</b> <b>U8 Sessions 2.2, 2.4, 2.5, 3.1, 3.2, 3.5</b>
<b>Topic 10: Developing Fluency: Dividing by 1-Digit Divisors</b>	
Lesson 10-1: Division as Repeated Subtraction	<b>U8 Session 3.3</b>
Lesson 10-2: Using Objects to Divide: Division as Sharing	<b>U3 Sessions 2.1 2.2</b> <b>U8 Sessions 3.1, 3.5</b>
Lesson 10-3: Dividing 2-Digit by 1-Digit Numbers	<b>U3 Sessions 2.1, 2.2, 2.3, 2.4, 2.5</b>
Lesson 10-4: Dividing 3-Digit by 1-Digit Numbers	<b>U3 Session 2.6</b> <b>U8 Sessions 3.1, 3.2</b>
Lesson 10-5: Deciding Where to Start Dividing	<b>U8 Session 3.5</b>
Lesson 10-6: Dividing 4-Digit by 1-Digit Numbers	Grade 4 students divide with up to 3-digit dividends, and with 2-digit divisors. <b>U8 Teacher Note</b> (page 123)

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Lesson 10-7: Problem Solving: Multiple-Step Problems	The following references are to division story problems. <b>U3 Sessions</b> 2.3, 2.4 <b>U8 Session</b> 3.5
<b>Number and Operations – Fractions</b>	
<b>Topic 11: Fraction Equivalence and Ordering</b>	
Lesson 11-1: Factors	<b>U1 Sessions</b> 1.2, 1.3, 3.1, 3.2, 3.3, 3.4 <b>U3 Session</b> 4.3
Lesson 11-2: Prime and Composite Numbers	<b>U1 Session</b> 1.3, 3.2
Lesson 11-3: Multiples	<b>U1 Sessions</b> 2.3, 2.4, 2.5 <b>U3 Session</b> 3.1
Lesson 11-4: Equivalent Fractions	<b>U6 Sessions</b> 1.1, 1.2, 2.2, 2.3, 2.4, 2.5; Teacher Note (pages 141-142)
Lesson 11-5: Number Lines and Equivalent Fractions	<b>U6 Session</b> 2.5
Lesson 11-6: Comparing Fractions	<b>U6 Sessions</b> 1.5, 2.4, 2.6
Lesson 11-7: Ordering Fractions	<b>U6 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
Lesson 11-8: Problem Solving: Writing to Explain	Grade 4 students communicate verbally in every investigation in the series by either writing or responding orally to questions about patterns, problems, or solution strategies. Sample references: <b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4 (“Students might say”)

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<b>Topic 12: Adding and Subtracting Fractions and Mixed Numbers with Like Denominators</b>	
Lesson 12-1: Modeling Addition of Fractions	<b>U6 Sessions</b> 1.6, 1.7, 2.1
Lesson 12-2: Adding Fractions with Like Denominators	<b>U6 Sessions</b> 1.6, 1.7, 2.1
Lesson 12-3: Modeling Subtraction of Fractions	<b>U6 Session</b> 1.8A
Lesson 12-4: Subtracting Fractions with Like Denominators	<b>U6 Session</b> 1.8A
Lesson 12-5: Adding and Subtracting on the Number Line	Grade 4 students graph fractions on a number line for comparison. <b>U6 Session</b> 2.5
Lesson 12-6: Improper Fractions and Mixed Numbers	<b>U6 Sessions</b> 2.1, 2.7A
Lesson 12-7: Modeling Addition and Subtraction of Mixed Numbers	<b>U6 Session</b> 2.7A
Lesson 12-8: Adding Mixed Numbers	<b>U6 Session</b> 2.7A
Lesson 12-9: Subtracting Mixed Numbers	<b>U6 Session</b> 2.7A
Lesson 12-10: Decomposing and Composing Fractions	Grade 4 students find combinations of fractions that equal 1. <b>U6 Sessions</b> 1.6, 2.1
Lesson 12-11: Problem Solving: Draw a Picture and Write an Equation	While working with fractions in Unit 6, students have the opportunity to draw models of fractions and combinations of fractions in every session. They construct fraction cards with picture models and

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	fractions written numerically as ratios. They write equations to model fraction addition. Sample references: <b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
<b>Topic 13: Extending Fraction Concepts</b>	
Lesson 13-1: Fractions as Multiples of Unit Fractions: Using Models	To explore fractions with numerators other than 1, students first examine fraction models to determine the fraction representing a shaded region (a unit fraction) and the corresponding unshaded region (usually, a non-unit fraction). Ultimately, students describe the numerator of a non-unit fraction as the number of parts of the given whole, or the number of individual items from a whole group. Students also generate non-unit fractions by multiplying fractions by whole numbers. <b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3A.1, 3A.2, 3A.3
Lesson 13-2: Multiplying a Fraction by a Whole Number: Using Models	<b>U6 Sessions</b> 3A.1, 3A.2, 3A.3
Lesson 13-3: Multiplying a Fraction by a Whole Number: Using Symbols	<b>U6 Sessions</b> 3A.1, 3A.2, 3A.3
Lesson 13-4: Fractions and Decimals	<b>U6 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 13-5: Fractions and Decimals on the Number Line	Students color squares on 10x10 Squares grids to model decimals. <b>U6 Sessions</b> 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7

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Lesson 13-6: Equivalent Fractions and Decimals	<b>U6 Sessions</b> 3.1, 3.2, 3.3, 3.5
Lesson 13-7: Decimal Place Value	<b>U6 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 13-8: Comparing Decimals	<b>U6 Sessions</b> 3.5, 3.6
Lesson 13-9: Using Money to Understand Decimals	<b>U5 Teacher Note</b> (page 186) <b>U6 Sessions</b> 3.1 (page 107)
Lesson 13-10: Problem Solving: Draw a Picture	<b>U6 Sessions</b> 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
<b>Measurement and Data</b>	
<b>Topic 14: Measurement Units and Conversions</b>	
Lesson 14-1: Using Customary Units of Length	<b>U2 Sessions</b> 1.2, 1.3, 1.4 <b>U6 Session</b> 3.4
Lesson 14-2: Customary Units of Capacity	Grade 4 students measure, or use measurements of, height, length, distance, perimeter, area, and angle rotation (more or less than 90°). <b>U2 Sessions</b> 1.2, 1.3, 1.4 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.2, 4.5, 4.6
Lesson 14-3: Units of Weight	Grade 4 students measure, or use measurements of, height, length, distance, perimeter, area, and angle rotation (more or less than 90°). <b>U2 Sessions</b> 1.2, 1.3, 1.4 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.2, 4.5, 4.6
Lesson 14-4: Changing Customary Units	<b>U7 Sessions</b> 3.5A, 3.5B

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Lesson 14-5: Problem Solving: Writing to Explain	Grade 4 students communicate verbally in every investigation in the series by either writing or responding orally to questions about patterns, problems, or solution strategies. The Activity and Discussion sections of each session typically contain open-ended questions for teachers to use as prompts. Sample references: <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U7 Session</b> 3.5B
Lesson 14-6: Using Metric Units of Length	<b>U4 Sessions</b> 1.1, 1.2, 1.3
Lesson 14-7: Metric Units of Capacity	Grade 4 students measure, or use measurements of, height, length, distance, perimeter, area, and angle rotation (more or less than 90°). <b>U2 Sessions</b> 1.2, 1.3, 1.4 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.2, 4.5, 4.6
Lesson 14-8: Units of Mass	Grade 4 students measure, or use measurements of, height, length, distance, perimeter, area, and angle rotation (more or less than 90°). <b>U2 Sessions</b> 1.2, 1.3, 1.4 <b>U4 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 3.2, 4.5, 4.6
Lesson 14-9: Changing Metric Units	<b>U7 Sessions</b> 3.5A, 3.5B
Lesson 14-10: Units of Time	Students use units of time as they measure and record plant growth and explore the concept of growth rate per day and over longer periods of time. <b>U9 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5

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Lesson 14-11: Problem Solving: Work Backward	This particular problem-solving strategy is not specifically taught in the Investigations curriculum, but students develop and apply their problem-solving skills in every session and every investigation in every unit of the series.  Sample references: <b>U2 Sessions</b> 1.4 <b>U4 Sessions</b> 1.3, 1.4, 1.5, 4.5, 4.6 <b>U6 Session</b> 3.4
<b>Topic 15: Solving Measurement and Data Problems</b>	
Lesson 15-1: Making Line Plots	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 2.5, 2.6, 2.7, 3.3; Teacher Note (page 121); Dialogue Boxes (pages 144-147)
Lesson 15-2: Solving Problems Involving Line Plots	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 2.5, 2.6, 2.7, 3.3; Teacher Note (page 121); Dialogue Boxes (pages 144-147)
Lesson 15-3: Solving Perimeter and Area Problems	<b>U4 Sessions</b> 1.1, 1.3, 1.4, 1.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Lesson 15-4: Solving Measurement Problems	<b>U2 Sessions</b> 1.4 <b>U4 Sessions</b> 1.3, 1.4, 1.5, 4.5, 4.6 <b>U6 Session</b> 3.4 <b>U7 Sessions</b> 3.2, 3.3, 3.4, 3.5, 3.5A, 3.5B <b>U9 Sessions</b> 1.1, 1.2, 3.1, 3.2
Lesson 15-5: Solving Problems Involving Money	<b>U5 Sessions</b> 4.5, 4.6; Teacher Note (page 186)
Lesson 15-6: Problem Solving: Solve a Simpler Problem and Make a Table	<b>U5 Sessions</b> 2.1, 2.2, 2.3 <b>U9 Sessions</b> 3.3, 3.4, 3.5; Teacher Notes (pages 138-139, 140-142, 143, 150-152); Dialogue Box (page 154)

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<b>Geometry</b>	
<b>Topic 16: Lines, Angles, and Shapes</b>	
Lesson 16-1: Points, Lines, and Planes	<b>U4 Sessions</b> 2.1, 2.2, 3.1, 4.1, 4.2 <b>U7 Sessions</b> 2.2, 2.3, 2.4, 2.5
Lesson 16-2: Line Segments, Rays, and Angles	<b>U4 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4A, 4.1, 4.2, 4.5, 4.6 <b>U7 Sessions</b> 1.1, 1.3, 2.4
Lesson 16-3: Understanding Angles and Unit Angles	<b>U4 Sessions</b> 2.4, 2.5, 3.1, 3.2, 3.3; Dialogue Box (page 166)
Lesson 16-4: Measuring with Unit Angles	Students measure angles in comparison to a right angle, and they identify angles in polygons. <b>U4 Sessions</b> 2.4, 2.5, 3.1, 3.2, 3.3; Dialogue Box (page 166)
Lesson 16-5: Measuring Angles	Students measure angles in comparison to a right angle, and they identify angles in polygons. <b>U4 Sessions</b> 2.4, 2.5, 3.1, 3.2, 3.3; Dialogue Box (page 166)
Lesson 16-6: Adding and Subtracting Angle Measures	Students measure angles in comparison to a right angle, and they identify angles in polygons. <b>U4 Sessions</b> 2.4, 2.5, 3.1, 3.2, 3.3; Dialogue Box (page 166)
Lesson 16-7: Polygons	<b>U4 Sessions</b> 2.1, 2.2, 2.3, 2.3A, 2.4, 2.5, 4.5, 4.6
Lesson 16-8: Triangles	<b>U4 Sessions</b> 2.2, 2.3A, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6

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**U3** Multiple Towers and Division Stories

**U4** Size, Shape, and Symmetry

**U5** Landmarks and Large Numbers

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Lesson 16-9: Quadrilaterals	<b>U4 Sessions</b> 2.3, 2.3A, 2.4, 2.5, 3.1, 3.2, 4.1, 4.2, 4.4, 4.5, 4.6; Teacher Note (pages 155, 156-158)
Lesson 16-10: Line Symmetry	<b>U4 Sessions</b> 4.1, 4.2, 4.3, 4.4, 4.6; Dialogue Box (pages 168-169)
Lesson 16-11: Problem Solving: Make and Test Generalizations	U3 Teacher Note (pages 168-170) <b>U5 Sessions</b> 2.3; Teacher Note (pages 174-176) <b>U9 Sessions</b> 2.2, 3.4

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enVisionMATH Common Core, ©2015 Grade 5	Investigations in Number, Data, and Space, ©2012 Grade 5
<b>Number and Operations in Base Ten</b>	
<b>Topic 1: Place Value</b>	
Lesson 1-1: Place Value Relationships	<b>U3 Mathematics in This Unit</b> (pages 10-11); <b>Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.4; Teacher Notes (pages 113-115) <b>U6 Mathematics in This Unit</b> (pages 11-12); <b>Sessions</b> 1.1, 1.2, 1.3, 1.4, 2.4, 2.5, 2.6, 2.7; Teacher Notes (pages 132-133); Dialogue Boxes (pages 143-146)
Lesson 1-2: Tenths and Hundredths	<b>U6 Mathematics in This Unit</b> (pages 10-11); Sessions 1.2, 2.2; Teacher Note (pages 123-124)
Lesson 1-3: Thousandths	<b>U6 Mathematics in This Unit</b> (pages 10-11); Sessions 1.2, 2.2; Teacher Note (pages 123-124)
Lesson 1-4: Decimal Place Value	<b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
Lesson 1-5: Comparing Decimals	<b>U6 Sessions</b> 1.1, 1.3, 1.4, 1.6, 1.8, 1.10, 2.4, 2.5; Dialogue Box (pages 138-139)
Lesson 1-6: Problem Solving: Look for a Pattern	<b>U6 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
<b>Topic 2: Adding and Subtracting Decimals</b>	
Lesson 2-1: Mental Math	<b>U6 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8
Lesson 2-2: Rounding Decimals	<b>U6 Sessions</b> 1.5A, 2.3, 2.6; Teacher Note (page 133); Dialogue Box (page 143)
Lesson 2-3: Estimating Sums and Differences	<b>U6 Sessions</b> 2.3, 2.6; Teacher Note (page 133); Dialogue Box (page 143)

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Lesson 2-4: Modeling Addition and Subtraction of Decimals	<b>U6 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.5A, 2.6, 2.7, 2.8
Lesson 2-5: Adding Decimals	<b>U6 Mathematics in This Unit</b> (page 12); <b>Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8; Teacher Note (pages 132-133); Dialogue Box (pages 143-144)
Lesson 2-6: Subtracting Decimals	In Grade 5, students focus on the decimal operation of addition. <b>U6 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8
Lesson 2-7: Problem Solving: Multiple-Step Problems	<b>U6 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.5A, 2.6, 2.7, 2.8
<b>Topic 3: Multiplying Whole Numbers</b>	
Lesson 3-1: Multiplication Properties	<b>U1 Mathematics in This Unit</b> (pages 12-13); Algebra Connections (pages 16-18); <b>Sessions</b> 2.2, 2.3 <b>U7 Mathematics in This Unit</b> (page 11); Algebra Connections (pages 17-19)
Lesson 3-2: Multiplying by Powers of 10	<b>U6 Session</b> 3A.1
Lesson 3-3: Multiplying 2-Digit Numbers by Multiples of 10	<b>U1 Mathematics in This Unit</b> (pages 12-13); <b>Sessions</b> 2.3, 2.4, 2.5, 2.6
Lesson 3-4: Multiplying 2-Digit by 2-Digit Numbers	<b>U1 Mathematics in This Unit</b> (pages 11-12); <b>Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8
Lesson 3-5: Multiplying Greater Numbers	<b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4
Lesson 3-6: Problem Solving: Draw a Picture and Write an Equation	<b>U1 Sessions</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4

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<b>Topic 4: Dividing by 1-Digit Divisors</b>	
Lesson 4-1: Dividing Multiples of 10 and 100	<b>U1 Session 3.6</b> <b>U7 Session 3.3</b>
Lesson 4-2: Estimating Quotients	<b>U1 Session 2.3</b>
Lesson 4-3: Problem Solving: Reasonableness	Grade 5 students learn to decide whether a solution is reasonable as they practice division strategies, including the first step in solving a problem or a starter problem, and then apply these strategies to real-world problem situations. <b>U1 Sessions 3.5, 3.6, 3.7</b> <b>U7 Sessions 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5</b>
Lesson 4-4: Dividing by 1-Digit Divisors	Students divide with multi-digit divisors and break division problems down into clusters or starter problems. <b>U1 Sessions 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8</b> <b>U7 Sessions 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7</b>
Lesson 4-5: Zeros in the Quotient	The division strategies presented in the Investigations series do not specifically address the issue of zeros in the quotient because they consist of breaking down the dividend into equal-sized groups using clusters or starter problems. <b>U1 Sessions 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8</b> <b>U7 Sessions 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7</b>

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Lesson 4-6: More Dividing by 1-Digit Divisors	Students divide with multi-digit divisors and break division problems down into clusters or starter problems. <b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 <b>U7 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 4-7: Problem Solving: Draw a Picture and Write an Equation	<b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 <b>U7 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
<b>Topic 5: Dividing by 2-Digit Divisors</b>	
Lesson 5-1: Using Patterns to Divide	<b>U1 Sessions</b> 3.2, 3.4
Lesson 5-2: Estimating Quotients with 2-Digit Divisors	<b>U1 Session</b> 2.3
Lesson 5-3: Connecting Models and Symbols	Investigations students use multiple towers and draw diagrams to model division and to represent multiplication and division problems. <b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 <b>U7 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 5-4: Dividing by Multiples of 10	<b>U1 Session</b> 3.6 <b>U7 Session</b> 3.3
Lesson 5-5: 1-Digit Quotients	The division strategies presented in the Investigations series do not specifically address the situation in which the quotient has only one digit because they consist of breaking down the dividend into equal-sized groups using clusters or starter problems. <b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 <b>U7 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7

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Lesson 5-6: 2-Digit Quotients	The division strategies presented in the Investigations series do not specifically address the situation in which the quotient has two digits because they consist of breaking down the dividend into equal-sized groups using clusters or starter problems. <b>U1 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 <b>U7 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
Lesson 5-7: Dividing with Greater Numbers	<b>U7 Sessions</b> 4.3, 4.4
Lesson 5-8: Problem Solving: Missing or Extra Information	There are no specific references to solving problems with missing or extra information, but Grade 5 students must read and study problems closely to make sure they are answering the questions being asked. Sample references: <b>U7 Sessions</b> 4.1, 4.2, 4.3, 4.4
<b>Topic 6: Multiplying Decimals</b>	
Lesson 6-1: Multiplying Decimals by 10, 100, or 1,000	<b>U6 Session</b> 3A.1
Lesson 6-2: Estimating the Product of a Decimal and a Whole Number	<b>U6 Session</b> 3A.2
Lesson 6-3: Number Sense: Decimal Multiplication	<b>U6 Sessions</b> 3A.2, 3A.3, 3A.4
Lesson 6-4: Models for Multiplying Decimals	<b>U6 Sessions</b> 3A.2, 3A.3, 3A.4
Lesson 6-5: Multiplying a Decimal by a Whole Number	<b>U6 Sessions</b> 3A.2, 3A.3, 3A.4
Lesson 6-6: Multiplying Two Decimals	<b>U6 Sessions</b> 3A.2, 3A.3, 3A.4, 3A.7

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Lesson 6-7: Problem Solving: Multiple-Step Problems	<b>U6 Sessions</b> 3A.2, 3A.3, 3A.4
<b>Topic 7: Dividing Decimals</b>	
Lesson 7-1: Dividing Decimals by 10, 100, or 1,000	<b>U6 Session</b> 3A.5
Lesson 7-2: Estimating Decimal Quotients	<b>U6 Session</b> 3A.6
Lesson 7-3: Number Sense: Decimal Division	<b>U6 Sessions</b> 3A.5, 3A.6
Lesson 7-4: Dividing by a Whole Number	<b>U6 Sessions</b> 3A.5, 3A.6
Lesson 7-5: Dividing a Whole Number by a Decimal	<b>U6 Session</b> 3A.6
Lesson 7-6: Dividing a Decimal by a Decimal	<b>U6 Sessions</b> 3A.6, 3A.7
Lesson 7-7: Problem Solving: Multiple-Step Problems	<b>U6 Sessions</b> 3A.5, 3A.6, 3A.7
<b>Operations and Algebraic Thinking</b>	
<b>Topic 8: Numerical Expressions, Patterns, and Relationships</b>	
Lesson 8-1: Variables and Expressions	<b>U8 Algebra Connections in This Unit</b> (page 19); Sessions 2.1, 2.2, 2.3, 2.4; Teacher Notes (pages 119, 120, 124, 130, 132)
Lesson 8-2: Order of Operations	<b>U1 Session</b> 2.4A

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Lesson 8-3: Evaluating Expressions	Students evaluate numerical expressions as they apply operation strategies and substitute values for variables. <b>U1 Sessions</b> 2.1, 2.2, 2.5, 2.6, 3.1, 3.5 <b>U2 Session</b> 1.4 <b>U3 Session</b> 1.4 <b>U6 Session</b> 2.2 <b>U7 Sessions</b> 2.1, 2.2, 2.3 <b>U8 Sessions</b> 2.1, 2.2, 2.3
Lesson 8-4: Addition and Subtraction Expressions	<b>U3 Sessions</b> 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5 <b>U4 Sessions</b> 3.2, 3.3, 3.7, 3.8, 3.9 <b>U6 Sessions</b> 2.3, 2.4, 2.5
Lesson 8-5: Multiplication and Division Expressions	<b>U1 Sessions</b> 1.4, 2.4, 2.5, 2.6, 3.5, 3.6, 3.7 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 3.3, 3.4, 3.5, 3.6
Lesson 8-6: Patterns: Extending Tables	<b>U8 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8
Lesson 8-7: Problem Solving: Use Reasoning	<b>U1 Sessions</b> 1.4, 2.4, 2.5, 2.6, 3.5, 3.6, 3.7 <b>U3 Sessions</b> 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5 <b>U4 Sessions</b> 3.2, 3.3, 3.7, 3.8, 3.9 <b>U7 Sessions</b> 2.1, 2.2, 2.3, 2.4, 3.3, 3.4, 3.5, 3.6

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<b>Number and Operations-Fractions</b>	
<b>Topic 9: Adding and Subtracting Fractions</b>	
Lesson 9-1: Problem Solving: Writing to Explain	Grade 5 students communicate verbally in every investigation in the series by either writing or responding orally to questions about patterns, problems, or solution strategies. The Activity and Discussion sections of each session typically contain open-ended questions for teachers to use as prompts. Sample references: <b>U4 Assessment</b> (page 14); Sessions 2.2, 2.4, 2.6, 3.3, 3.7 <b>U6 Assessment</b> (page 14); Sessions 1.5, 1.8, 1.10
Lesson 9-2: Estimating Sums and Differences of Fractions	Students estimate sums and differences of larger whole numbers in the Ten-Minute Math feature in Unit 4. They estimate sums of decimals in Unit 6. <b>U4 Sessions</b> 3.2, 3.3, 3.6, 3.7, 3.8, 3.9 <b>U6 Sessions</b> 2.3, 2.6; Teacher Note (page 133); Dialogue Box (page 143)
Lesson 9-3: Adding Fractions with Unlike Denominators	<b>U4 Sessions</b> 3.1, 3.2, 3.3, 3.6, 3.7, 3.8, 3.9
Lesson 9-4: Subtracting Fractions with Unlike Denominators	<b>U4 Sessions</b> 3.7, 3.8, 3.9
Lesson 9-5: More Adding and Subtracting Fractions	<b>U4 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10
Lesson 9-6: Solving Problems with Fractions	<b>U4 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10
Lesson 9-7: Problem Solving: Draw a Picture and Write an Equation	<b>U4 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10

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<b>Topic 10: Adding and Subtracting Mixed Number</b>	
Lesson 10-1: Estimating Sums and Differences of Mixed Numbers	Grade 5 students order mixed numbers and break them apart to add them. <b>U4 Mathematics in This Unit</b> (page 11); <b>Sessions</b> 3.5, 3.8, 3.9 (Daily Practice and Homework)
Lesson 10-2: Modeling Addition and Subtraction of Mixed Numbers	Grade 5 students order mixed numbers and break them apart to add them. <b>U4 Mathematics in This Unit</b> (page 11); <b>Sessions</b> 3.5, 3.8, 3.9 (Daily Practice and Homework)
Lesson 10-3: Adding Mixed Numbers	Grade 5 students order mixed numbers and break them apart to add them. <b>U4 Mathematics in This Unit</b> (page 11); <b>Sessions</b> 3.5, 3.8, 3.9 (Daily Practice and Homework)
Lesson 10-4: Subtracting Mixed Numbers	Grade 5 students order mixed numbers and break them apart to add them. <b>U4 Mathematics in This Unit</b> (page 11); <b>Sessions</b> 3.5, 3.8, 3.9 (Daily Practice and Homework)
Lesson 10-5: More Adding and Subtracting Mixed Numbers	Grade 5 students order mixed numbers and break them apart to add them. <b>U4 Mathematics in This Unit</b> (page 11); <b>Sessions</b> 3.5, 3.8, 3.9 (Daily Practice and Homework)
Lesson 10-6: Problem Solving: Draw a Picture and Write an Equation	<b>U4 Sessions</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10
<b>Topic 11: Multiplying and Dividing Fractions and Mixed Numbers</b>	
Lesson 11-1: Multiplying Fractions and Whole Numbers	<b>U4 Sessions</b> 4A.1, 4A.2

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Lesson 11-2: Multiplication as Scaling	<b>U4 Sessions</b> 4A.1, 4A.2, 4A.4
Lesson 11-3: Estimating Products	<b>U4 Sessions</b> 4A.2, 4A.3; 4A.4, 4A.7 (Ten-Minute Math)
Lesson 11-4: Multiplying Two Fractions	<b>U4 Sessions</b> 4A.3, 4A.4, 4A.5, 4A.6, 4A.7
Lesson 11-5: Area Models	<b>U1 Sessions</b> 1.1, 1.2 <b>U4 Sessions</b> 4A.1, 4A.4, 4A.5, 4A.6 <b>U5 Session</b> 2.4
Lesson 11-6: Multiplying Mixed Numbers	<b>U4 Sessions</b> 4A.3, 4A.7
Lesson 11-7: Problem Solving: Multiple-Step Problems	<b>U3 Mathematics in This Unit</b> (page 11); Sessions 3.2, 3.3, 3.4 <b>U7 Sessions</b> 3.4, 3.5, 4.1, 4.2, 4.3, 4.4
Lesson 11-8: Fractions and Division	<b>U4 Sessions</b> 4A.8, 4A.9, 4A.10
Lesson 11-9: Fractions, Mixed Numbers, and Decimals as Quotients	<b>U4 Sessions</b> 4A.8, 4A.9, 4A.10
Lesson 11-10: Dividing Whole Numbers by Unit Fractions	<b>U4 Sessions</b> 4A.8
Lesson 11-11: Dividing Unit Fractions by Non-Zero Whole Numbers	<b>U4 Sessions</b> 4A.9
Lesson 11-12: Problem Solving: Draw a Picture and Write an Equation	<b>U4 Sessions</b> 4A.1, 4A.2, 4A.3, 4A.4, 4A.5, 4A.6, 4A.7

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<b>Measurement and Data</b>	
<b>Topic 12: Volume of Solids</b>	
Lesson 12-1: Models and Volume	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.4A, 3.1, 3.2, 3.3, 3.4
Lesson 12-2: Volume	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.4A, 3.1, 3.2, 3.3, 3.4
Lesson 12-3: Combining Volumes	<b>U2 Sessions</b> 1.3, 1.4, 1.5A, 2.4A; Teacher Note (pages 155-116)
Lesson 12-4: Problem Solving: Use Objects and Reasoning	<b>U2 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.5A, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.4A, 3.1, 3.2, 3.3, 3.4
<b>Topic 13: Units of Measure</b>	
Lesson 13-1: Converting Customary Units of Length	<b>U6 Session</b> 3A.8
Lesson 13-2: Converting Customary Units of Capacity	<b>U6 Session</b> 3A.9
Lesson 13-3: Converting Customary Units of Weight	<b>U6 Session</b> 3A.9
Lesson 13-4: Converting Metric Units of Length	<b>U6 Session</b> 3A.8
Lesson 13-5: Converting Metric Units of Capacity	<b>U6 Session</b> 3A.9
Lesson 13-6: Converting Metric Units of Mass	<b>U6 Session</b> 3A.9

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Lesson 13-7: Problem Solving: Multiple-Step Problems	<b>U6 Session</b> 3A.8, 3A.9
<b>Topic 14: Data</b>	
Lesson 14-1: Line Plots	<b>U5 Sessions</b> 2.1, 3.3 (Ten-Minute Math: Quick Survey), 3.5 (Ten-Minute Math: Quick Survey) <b>U8</b> Teacher Note (page 115) <b>U9 Session</b> 1.5A
Lesson 14-2: Data from Surveys	<b>U5</b> Ten-Minute Math in This Unit (page 16); <b>Sessions</b> 2.1, 2.2, 2.5, 2.6, 3.3, 3.4, 3.5
Lesson 14-3: Making Line Plots	<b>U5 Sessions</b> 2.1, 3.3 (Ten-Minute Math: Quick Survey), 3.5 (Ten-Minute Math: Quick Survey) <b>U8</b> Teacher Note (page 115) <b>U9 Session</b> 1.5A
Lesson 14-4: Measurement Data	<b>U8 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5 <b>U9 Session</b> 1.5A
Lesson 14-5: Problem Solving: Writing to Explain	Grade 5 students communicate verbally in every investigation in the series by either writing or responding orally to questions about patterns, problems, or solution strategies. The Activity and Discussion sections of each session typically contain open-ended questions for teachers to use as prompts. Sample references: <b>U5</b> Assessment (page 14); <b>Sessions</b> 1.1, 1.3, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.5

**Grade 5 Investigations Curriculum Units**

**U1** Number Puzzles and Multiple Towers  
**U2** Prisms and Pyramids  
**U3** Thousands of Miles, Thousands of Seats  
**U4** What's That Portion?  
**U5** Measuring Polygons

**U6** Decimals on Grids and Number Lines  
**U7** How Many People? How Many Teams?  
**U8** Growth Patterns  
**U9** How Long Can You Stand on One Foot?

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<b>Geometry</b>	
<b>Topic 15: Classifying Plane Figures</b>	
Lesson 15-1: Polygons	<b>U5 Sessions</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.3, 2.5, 2.7A, 3.1
Lesson 15-2: Triangles	<b>U5 Sessions</b> 1.1, 1.4, 1.5, 3.1, 3.2; Teacher Notes (pages 137-138, 153-154)
Lesson 15-3: Attributes of Quadrilaterals	<b>U5 Sessions</b> Mathematics in This Unit (page 10); 1.2, 1.3, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6; Teacher Notes (pages 137-138, 153-154)
Lesson 15-4: Special Quadrilaterals	<b>U5 Sessions</b> Mathematics in This Unit (page 10); 1.2, 1.3, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6; Teacher Notes (pages 137-138, 153-154)
Lesson 15-5: Classifying Quadrilaterals	<b>U5 Sessions</b> Mathematics in This Unit (page 10); 1.2, 1.3, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6; Teacher Notes (pages 137-138, 153-154)
Lesson 15-6: Problem Solving: Make and Test Generalizations	<b>U5 Sessions</b> Mathematics in This Unit (page 10); 1.2, 1.3, 1.4, 1.5, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7A; Teacher Notes (pages 137-138, 153-154)
<b>Topic 16: Coordinate Geometry</b>	
Lesson 16-1: Ordered Pairs	<b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8; Teacher Notes (pages 115-117, 118-119, 120-124, 125-126)
Lesson 16-2: Patterns and Graphing	<b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8; Teacher Notes (pages 115-117, 118-119, 120-124, 125-126)

**Grade 5 Investigations Curriculum Units**

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Lesson 16-3: More Patterns and Graphing	<b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8; Teacher Notes (pages 115-117, 118-119, 120-124, 125-126)
Lesson 16-4: Graphing Number Patterns	<b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8; Teacher Notes (pages 115-117, 118-119, 120-124, 125-126)
Lesson 16-5: Problem Solving: Work Backward	This particular problem-solving strategy is not specifically taught in the Investigations curriculum, but students develop and apply their problem-solving skills in every session and every investigation in every unit of the series.  Sample references: <b>U8 Sessions</b> 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8

**Grade 5 Investigations Curriculum Units**

- U1** Number Puzzles and Multiple Towers
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<b>Expression and Equations</b>	
<b>Topic 1: Variables and Expressions</b>	
Lesson 1-1: Exponents	<b>Prime Time: Factors and Multiples:</b> 3.2, 3.3, 3.4 <b>Covering and Surrounding:</b> 4.2, 4.3
Lesson 1-2: Properties of Operations	<b>Prime Time: Factors and Multiples:</b> 4.2, 4.3, 4.4 <b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 1-3: Order of Operations	<b>Prime Time: Factors and Multiples:</b> 4.4 <b>Variables and Patterns:</b> 3.4; Inv. 3 ACE (#21)
Lesson 1-4: The Distributive Property	<b>Prime Time: Factors and Multiples:</b> 4.3 <b>Variables and Patterns:</b> 4.3; Inv. 4 ACE (#31-39)
Lesson 1-5: Evaluating Numerical Expressions	<b>Prime Time: Factors and Multiples:</b> 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4
Lesson 1-6: Using Variables to Write Expressions	<b>Covering and Surrounding:</b> 4.2, 4.3 <b>Variables and Patterns:</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 1-7: Parts of an Expression	<b>Prime Time: Factors and Multiples:</b> 1.3, 1.4, 3.1, 3.2, 3.3, 3.4, 4.2, 4.3, 4.4
Lesson 1-8: Evaluating Algebraic Expressions	<b>Covering and Surrounding:</b> 4.2, 4.3 <b>Variables and Patterns:</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 1-9: Using Expressions to Describe Patterns	<b>Variables and Patterns:</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2
Lesson 1-10: Simplifying Algebraic Expressions	<b>Covering and Surrounding:</b> 4.2, 4.3 <b>Variables and Patterns:</b> 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 1-11: Writing Equivalent Expressions	<b>Prime Time: Factors and Multiples:</b> 4.2, 4.3, 4.4 <b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4, 4.5



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Lesson 1-12: Equivalent Expressions	<b>Prime Time: Factors and Multiples:</b> 4.2, 4.3, 4.4 <b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4, 4.5
Lesson 1-13: Problem Solving: Make an Organized List	<b>Comparing Bits and Pieces:</b> 2.3 <b>Variables and Patterns:</b> 1.1, 2.1, 3.2
<b>Topic 2: Equations and Inequalities</b>	
Lesson 2-1: Understanding Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-2: Properties of Equality	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-3: Solving Addition and Subtraction Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-4: Problem Solving: Draw a Picture and Write an Equation	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-5: Solving Multiplication and Division Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-6: Solving Equations with Fractions	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 2-7: Writing Inequalities	<b>Variables and Patterns:</b> 4.5
Lesson 2-8: Solving Inequalities	<b>Variables and Patterns:</b> 4.5
Lesson 2-9: Problem Solving: Draw a Picture and Write an Equation	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
<b>Topic 3: Patterns and Equations</b>	
Lesson 3-1: Dependent and Independent Variables	<b>Variables and Patterns:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
Lesson 3-2: Patterns and Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 3-3: More Patterns and Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4

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Lesson 3-4: Problem Solving: Use Reasoning	<p>The instructional pages and the ACE problem sets frequently refer to a mathematical argument, claim, or reasoning by an individual; students are asked to evaluate this reasoning and conclusion with supporting evidence or counterexamples.</p> <p>Sample references:</p> <p><b>Prime Time: Factors and Multiples:</b> 1.2, 3.3, 4.1, Inv. 4 ACE (#87-88)</p> <p><b>Comparing Bits and Pieces:</b> 1.2, 3.5</p> <p><b>Let's Be Rational:</b> 2.2 (Problem C), 2.3, 4.2 (Problem C)</p> <p><b>Covering and Surrounding:</b> Inv. 1 ACE (#54, 61)</p>
<b>The Number System</b>	
<b>Topic 4: Achieving Fluency: Adding, Subtracting, and Multiplying Decimals</b>	
Lesson 4-1: Estimating Sums and Differences	<p><b>Comparing Bits and Pieces:</b> 3.2</p> <p><b>Let's Be Rational:</b> 1.1</p> <p><b>Decimal Operations: Computing with Decimals and Percents:</b> 1.2, Inv. 1 ACE (#1-7)</p>
Lesson 4-2: Evaluating Addition and Subtraction Expressions	<b>Decimal Operations: Computing with Decimals and Percents:</b> 2.1, 2.2, 2.3
Lesson 4-3: Solving Addition and Subtraction Equations	<b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 4-4: Estimating Products	<b>Decimal Operations: Computing with Decimals and Percents:</b> 1.2, Inv. 1 ACE (#1-7)
Lesson 4-5: Multiplying Decimals	<b>Decimal Operations: Computing with Decimals and Percents:</b> 3.1, 3.2
Lesson 4-6: Problem Solving: Make a Table and Look for a Pattern	<p><b>Comparing Bits and Pieces:</b> 2.3</p> <p><b>Variables and Patterns:</b> 1.1, 2.1, 3.2</p>

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<b>Topic 5: Achieving Fluency: Dividing Whole Numbers and Decimals</b>	
Lesson 5-1: Estimating Quotients: 2 Digit Divisors	<b>Decimal Operations: Computing with Decimals and Percents:</b> 1.2, Inv. 1 ACE (#1-7)
Lesson 5-2: Dividing Whole Numbers: 2-Digit Divisors	Students find factors of composite whole numbers, and divide multi-digit decimals. Prime Time: 1.1, 1.4, 3.2, 3.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 3.3, 3.4, 3.5
Lesson 5-3: More Dividing Whole Numbers	Students find factors of composite whole numbers, and divide multi-digit decimals. Prime Time: 1.1, 1.4, 3.2, 3.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 3.3, 3.4, 3.5
Lesson 5-4: Dividing Decimals by a Whole Number	<b>Decimal Operations: Computing with Decimals and Percents:</b> 3.3, 3.4, 3.5
Lesson 5-5: Dividing Decimals	<b>Decimal Operations: Computing with Decimals and Percents:</b> 3.3, 3.4, 3.5
Lesson 5-6: Evaluating Expressions with Decimals	<b>Decimal Operations: Computing with Decimals and Percents:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5
Lesson 5-7: Solving Equations with Decimals	Students solve equations with positive integer coefficients. <b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 5-8: Problem Solving: Multiple-Step Problems	<b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
<b>Topic 6: Dividing Fractions</b>	
Lesson 6-1: Greatest Common Factor	<b>Prime Time: Factors and Multiples:</b> 2.1, 2.2, 2.3, 3.2, 3.3, 3.4
Lesson 6-2: Least Common Multiple	<b>Prime Time: Factors and Multiples:</b> 2.1, 2.2, 2.3
Lesson 6-3: Understanding Division of Fractions	<b>Let's Be Rational:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4

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Lesson 6-4: Dividing Whole Numbers by Fractions	<b>Let's Be Rational:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4
Lesson 6-5: Modeling Division of Fractions	<b>Let's Be Rational:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4
Lesson 6-6: Dividing Fractions	<b>Let's Be Rational:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4
Lesson 6-7: Estimating Mixed Number Quotients	<b>Let's Be Rational:</b> 3.2
Lesson 6-8: Dividing Mixed Numbers	<b>Let's Be Rational:</b> 3.2
Lesson 6-9: Evaluating Expressions with Fractions	<b>Let's Be Rational:</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3
Lesson 6-10: Solving Equations with Fractions	Students solve equations with positive integer coefficients. <b>Variables and Patterns:</b> 4.1, 4.2, 4.3, 4.4
Lesson 6-11: Problem Solving: Look for a Pattern	<b>Comparing Bits and Pieces:</b> 2.3 <b>Variables and Patterns:</b> 1.1, 2.1, 3.2
<b>Topic 7: Integers and Other Rational Numbers</b>	
Lesson 7-1: Understanding Integers	<b>Comparing Bits and Pieces:</b> 3.1, 3.2 <b>Variables and Patterns:</b> 2.3, 2.4
Lesson 7-2: Comparing and Ordering Integers	<b>Comparing Bits and Pieces:</b> 3.1, 3.2, 3.4
Lesson 7-3: Absolute Value	<b>Comparing Bits and Pieces:</b> 3.1, 3.2, 3.4
Lesson 7-4: Rational Numbers on a Number Line	<b>Comparing Bits and Pieces:</b> 3.1, 3.2, 3.4 <b>Variables and Patterns:</b> 2.3
Lesson 7-5: Comparing and Ordering Rational Numbers	<b>Comparing Bits and Pieces:</b> 3.1, 3.2, 3.4

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Lesson 7-6: Problem Solving: Use Reasoning	<b>Comparing Bits and Pieces:</b> 1.5, Inv. 1 ACE (#3, 12-15, 35-38), 2.3, Inv. 2 ACE (#11-14, 29-30), 3.1, 3.2, 3.3, 3.5; Mathematical Reflections (pages 59-60, 93-94, 110-111)
<b>Topic 8: Coordinate Geometry</b>	
Lesson 8-1: Integers on the Coordinate Plane	<b>Variables and Patterns:</b> 2.3
Lesson 8-2: Rational Numbers on the Coordinate Plane	<b>Covering and Surrounding:</b> 2.1, 3.4 <b>Variables and Patterns:</b> 1.1, 1.2, 1.3, 1.4
Lesson 8-3: Distance on the Coordinate Plane	<b>Covering and Surrounding:</b> 2.1, 3.4
Lesson 8-4: Polygons on the Coordinate Plane	<b>Covering and Surrounding:</b> 2.1, 3.4
Lesson 8-5: Graphing Equations	<b>Variables and Patterns:</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
Lesson 8-6: More Graphing Equations	<b>Variables and Patterns:</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
Lesson 8-7: Problem Solving: Multiple-Step Problems	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
<b>Ratios and Proportional Relationships</b>	
<b>Topic 9: Ratios</b>	
Lesson 9-1: Understanding Ratios	<b>Comparing Bits and Pieces:</b> 1.1, 1.2, 1.3, 1.4, 1.5
Lesson 9-2: Equivalent Ratios	<b>Comparing Bits and Pieces:</b> 2.1, 2.2, 2.3 <b>Variables and Patterns:</b> 3.1, 3.2
Lesson 9-3: Modeling Ratios	<b>Comparing Bits and Pieces:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.2
Lesson 9-4: Using Ratio Tables	<b>Comparing Bits and Pieces:</b> 2.1, 2.2, 2.3 <b>Variables and Patterns:</b> 3.1, 3.2
Lesson 9-5: Ratios and Graphs	<b>Variables and Patterns:</b> 1.1, 2.1, 3.2
Lesson 9-6: Problem Solving: Draw a Picture	<b>Comparing Bits and Pieces:</b> 1.2, 1.3, 1.4, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4

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<b>Topic 10: Rates</b>	
Lesson 10-1: Understanding Rates	<b>Comparing Bits and Pieces:</b> 2.1, 2.2, 2.3
Lesson 10-2: Comparing Rates	<b>Comparing Bits and Pieces:</b> 2.1, 2.2, 2.3
Lesson 10-3: Unit Rates	<b>Comparing Bits and Pieces:</b> 2.1, 2.2, 2.3 <b>Variables and Patterns:</b> 3.1 <b>Decimal Operations: Computing with Decimals and Percents:</b> 1.3
Lesson 10-4: Unit Price	<b>Variables and Patterns:</b> 2.1, 3.1 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.4
Lesson 10-5: Constant Speed	<b>Decimal Operations: Computing with Decimals and Percents:</b> 1.3 <b>Variables and Patterns:</b> 3.2
Lesson 10-6: Converting Customary Units	Students do not convert customary or metric units. They transform units appropriately as they calculate rates, area, perimeter, surface area, and volume. <b>Covering and Surrounding:</b> 1.2, 1.3, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.4
Lesson 10-7: Converting Metric Units	Students do not convert customary or metric units. They transform units appropriately as they calculate rates, area, perimeter, surface area, and volume. <b>Covering and Surrounding:</b> 1.2, 1.3, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.4
Lesson 10-8: Problem Solving: Writing to Explain	Students write to explain their reasoning in their Reflections and as they complete Unit Projects and Look Back over each unit. Sample references: <b>Comparing Bits and Pieces:</b> Inv. 1 (pages 41-42), Inv. 2 (pages 59-60), Inv. 3 (pages 93-94), Inv. 4 (pages 110-114)

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<b>Topic 11: Percents</b>	
Lesson 11-1: Understanding Percent	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
Lesson 11-2: Fractions, Decimals, and Percents	<b>Comparing Bits and Pieces:</b> 3.5, 4.1, 4.2, 4.3; Looking Back (page 113); Explain Your Reasoning (page 114)
Lesson 11-3: Percents Greater Than 100 or Less Than 1	<b>Comparing Bits and Pieces:</b> 4.2, Inv. 4 ACE (#41-43)
Lesson 11-4: Estimating Percent	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
Lesson 11-5: Finding the Percent of a Number	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
Lesson 11-6: Finding the Whole	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
Lesson 11-7: Problem Solving: Reasonableness	<b>Comparing Bits and Pieces:</b> 4.1, 4.2, 4.3 <b>Decimal Operations: Computing with Decimals and Percents:</b> 4.1, 4.2, 4.3, 4.4
<b>Geometry</b>	
<b>Topic 12: Area</b>	
Lesson 12-1: Area of Rectangles	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3
Lesson 12-2: Area of Parallelograms and Rhombuses	<b>Covering and Surrounding:</b> 3.1, 3.2, 3.3, 3.4
Lesson 12-3: Area of Triangles	<b>Covering and Surrounding:</b> 2.1, 2.2, 2.3, 2.4, 3.1
Lesson 12-4: Area of Special Quadrilaterals	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4
Lesson 12-5: Finding Areas of Polygons	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4

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Lesson 12-6: Areas of Polygons on the Coordinate Plane	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
Lesson 12-7: Problem Solving: Use Objects	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3
<b>Topic 13: Surface Area and Volume</b>	
Lesson 13-1: Solid Figures and Nets	<b>Covering and Surrounding:</b> 4.1, 4.2, 4.3
Lesson 13-2: Surface Area of Prisms and Pyramids	<b>Covering and Surrounding:</b> 4.1, 4.3
Lesson 13-3: Modeling Volume	<b>Covering and Surrounding:</b> 4.2
Lesson 13-4: Volume with Fractional Edge Lengths	<b>Covering and Surrounding:</b> 4.2
Lesson 13-5: Problem Solving: Use Objects and Reasoning	<b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3
<b>Statistics and Probability</b>	
<b>Topic 14: Statistics</b>	
Lesson 14-1: Statistical Questions	<b>Data About Us:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3
Lesson 14-2: Looking at Data Sets	<b>Data About Us:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3
Lesson 14-3: Mean	<b>Data About Us:</b> 2.1, 2.2, 2.3, 3.3, 4.1, 4.2
Lesson 14-4: Median, Mode, and Range	<b>Data About Us:</b> 1.2, 1.3, 2.3, 3.1, 3.2, 4.1, 4.2, 4.3
Lesson 14-5: Frequency Tables and Histograms	<b>Data About Us:</b> 1.1, 2.4, 4.1, 4.2, 4.3
Lesson 14-6: Box Plots	<b>Data About Us:</b> 4.2, 4.3



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Lesson 14-7: Measures of Variability	<b>Data About Us:</b> 1.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3
Lesson 14-8: Appropriate Use of Statistical Measures	<b>Data About Us:</b> 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3
Lesson 14-9: Summarizing Data Distributions	<b>Data About Us:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3
Lesson 14-10: Problem Solving: Try, Check, and Revise	<p>Connected Math Project 3 does not present Try, Check, and Revise as a specific problem-solving strategy. The investigative nature of the curriculum lends requires students to persevere in their problem solving, and they may need to apply more than one problem-solving strategy.</p> <p>Sample references:</p> <p>Prime Time: Factors and Multiples: 1.4, 2.3, 3.4, 4.1</p> <p><b>Comparing Bits and Pieces:</b> Inv. 2 ACE (#31-36)</p> <p><b>Let's Be Rational:</b> 4.3</p> <p><b>Covering and Surrounding:</b> 1.1, 1.2, 1.3, 4.3</p>