

Learning Progression

Grade 2

# Math Trailblazers<sup>®</sup>

Fourth Edition



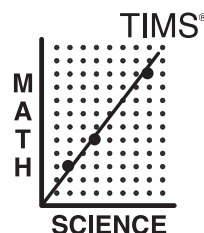
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# Math Trailblazers<sup>®</sup>

Common Core State Standards

## Math Trailblazers Grade 2 Learning Progression Program Scope and Sequence

**Kendall Hunt**



**A TIMS<sup>®</sup> CURRICULUM**  
*University of Illinois at Chicago*

The Learning Progression outlines the Key Ideas that guide the Math Trailblazers® program. These Key Ideas fall within five strands: Number, Algebra, Geometry, Measurement, and Data. Each Key Idea is listed, followed by a chart that details each unit that addresses that Key Idea. Under each unit number is a list of the specific Math Trailblazers Expectations that correlate with the larger Key Idea. Expectations are also correlated with Common Core State Standards for Mathematics, Standards for Mathematical Practice, and mathematical strands. Together, these elements provide a comprehensive Scope and Sequence for the Math Trailblazers curriculum.

Key Idea Measurement 1: Measurement Concepts Understand measurable attributes of objects or situations (length, area, mass, volume, size, time) and the units, systems, and processes of measurement.			
Expectations			
UNIT 1	UNIT 2	UNIT 4	UNIT 8
2.1.E4. Identify the relationship between pennies, nickels, dimes, and quarters. [2.MD.8] [MP7, MP8] (M1)	2.2.E8. Sort and classify objects by their characteristics. [2.G.1] [MP7] (M1)	2.4.E4. Recognize that the measure of a length is dependent on the size of the unit of measure (e.g., a pencil is 6 inches or 15 centimeters). [2.MD.2] [MP1, MP2, MP3, MP5, MP6, MP7] (M1)	2.8.E7. Measure and compare the mass of objects using a two-pan balance and standard gram masses. [3.MD.2] [MP2, MP5, MP6] (M1)
2.1.E5. Find the value of a collection of pennies, nickels, dimes, and quarters. [2.MD.8, 2.OA.1] [MP1, MP2, MP4, MP5, MP8] (M1)			2.8.E8. Solve elapsed-time problems involving time measurements to the nearest five minutes. [2.MD.7] [MP1, MP2, MP5, MP6] (M1)
UNIT 10	UNIT 13		
2.10.E6. Recognize that different shapes can have the same volume. [5.MD.3] [MP2] (M1)	2.13.E7. Recognize that the same fractional parts of different-size unit wholes are not equal. [2.G.3] [MP1, MP2, MP4, MP6, MP8] (M1)		
2.10.E7. Identify and measure the dimensions (floor plan, height) of a building. [2.NBT.9, 2.NBT.5] (M1)	2.13.E8. Find the area of a shape on a grid using counting, repeated addition, and reasoning strategies. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1, G4, A4)		
	2.13.E9. Recognize that different shapes can have the same area. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1)		

- Key Idea: Every grade of the Math Trailblazers program is designed around the same set of Key Ideas. These Key Ideas appear as horizontal headers in the Learning Progression.
- Expectations: Expectations are listed by unit under the Key Ideas. These Expectations correlate with Key Ideas, but are more specific to the content taught in the listed unit
- Mathematical Strand: The Learning Progression is organized by mathematical strands, which are color-coded and listed vertically along the edge of each page

- Correlations: Each Expectation includes a list of codes indicating the correlations to the Common Core State Standards, the Standards for Mathematical Practice, and the mathematical strands.

2.15.E1. Identify and extend patterns represented in numbers and in geometric patterns. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP7, MP8] (N2, A1, G4)

- Common Core State Standards
- Standards for Mathematical Practice
- Mathematical strands, numbered by Key Ideas

# GRADE 2

Students continue to develop reasoning strategies to become fluent with the addition and subtraction facts. Students extend their understanding of the unit of 10 and of the base-ten number system to develop place-value concepts. They use these place-value concepts and the properties of addition and subtraction to develop mental math strategies, conceptual models, and standard algorithms for multidigit addition and subtraction. Students develop methods for measuring and comparing lengths measured in different-sized standard and nonstandard units. They describe and reason about the properties of shapes. Students use equal groups of objects or equal partitions of a shape to develop foundations for multiplication and division.

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<b>Unit 1</b>	Welcome to Second Grade
<b>Unit 2</b>	Buttons: Sorting and Counting
<b>Unit 3</b>	Exploring Numbers
<b>Unit 4</b>	Going to Great Lengths
<b>Unit 5</b>	Putting Numbers in Their Places
<b>Unit 6</b>	Place Value
<b>Unit 7</b>	Adding Larger Numbers
<b>Unit 8</b>	Addition Properties and Mass
<b>Unit 9</b>	Subtracting Larger Numbers
<b>Unit 10</b>	Addition Properties Using Volume
<b>Unit 11</b>	Exploring Volume With Addition and Subtraction
<b>Unit 12</b>	Grouping and Sharing
<b>Unit 13</b>	Reason With Shapes
<b>Unit 14</b>	Multidigit Addition and Subtraction
<b>Unit 15</b>	Patterns in Data

**Key Idea Number 1: Number Sense** Understand the base-ten number system, recognize relationships among quantities and numbers, and represent numbers in multiple ways.

**Expectations**

UNIT 2	UNIT 3	UNIT 4	UNIT 5
2.2.E1. Represent and identify quantities (e.g., greater than 100) using groups of counters, drawings, symbols, number sentences, and words. [2.NBT.1, 2.NBT.3] [MP4, MP7] (N1, A3)	2.3.E1. Identify, describe, and use patterns on a 200 Chart and number line. [2.MD.6] [MP3, MP4, MP6, MP7, MP8] (N1, A4)	2.4.E1. Use words and symbols (e.g., $<$ , $>$ , $=$ ) to show comparisons of quantities (e.g., lengths). [2.NBT.4] [MP2, MP4] (N1, A3)	2.5.E1. Represent quantities (to the hundreds) using connecting cubes, words, and symbols. [2.NBT.1, 2.MD.6] [MP2, MP4] (N1)
2.2.E2. Use and apply place value concepts to make connections among representations of numbers. [2.NBT.1, 2.NBT.3] [MP7] (N1, A4)	2.3.E2. Connect representations of quantities using number lines, 200 Charts, and number sentences. [2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.4.E2. Use and apply place value concepts and comparative language to compare and order lengths (e.g., shorter, longer, shortest, longest). [2.NBT.4] [MP2, MP4, MP5] (N1, A4)	2.5.E2. Compose and decompose numbers using ones, tens, and hundreds. [2.NBT.2] [MP2, MP4] (N1)
2.2.E3. Use efficient grouping strategies to count a collection of objects. [2.NBT.1] [MP2] (N1)			2.5.E3. Show different partitions of numbers using connecting cubes, number lines, and number sentences (e.g., $154 = 100 + 50 + 4$ ). [2.NBT.2, 2.NBT.3, 2.MD.6] [MP2, MP4] (N1, A3)
2.2.E4. Use a benchmark to estimate a quantity of objects in a collection. [2.NBT.1] [MP2, MP3] (N1)			2.5.E4. Estimate a quantity using 10 and 100 as benchmarks. [2.MD.3] [MP2, MP4, MP5] (N1)
2.2.E5. Use words and symbols (e.g., $<$ , $>$ , $=$ ) to show comparisons of quantities. [2.NBT.4] [MP2, MP6] (N1, A3)			2.5.E5. Read and write numbers (to the hundreds). [2.NBT.3] (N1)
			2.5.E6. Make connections between place value concepts and representations of numbers with counters, number lines, number sentences, and symbols. [2.NBT.2, 2.MD.6] [MP2, MP3, MP4, MP5, MP8] (N1)
			2.5.E7. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)

## Key Idea Number 1: Number Sense *continued*

### Expectations

UNIT 6	UNIT 7	UNIT 8	UNIT 9
2.6.E1. Represent two-digit and three-digit numbers using base-ten pieces, number lines, and symbols. [2.NBT.1, 2.MD.6] [MP2, MP4] (N1)	2.7.E1. Use and apply place value concepts to make connections among representations of numbers to the thousands using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.8.E1. Compose and decompose numbers using ones, fives, tens, twenties, fifties, and hundreds. [2.NBT.2] [MP2, MP4] (N1)	2.9.E1. Use and apply place value concepts to make connections among representations of numbers to the thousands using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)
2.6.E2. Compose and decompose numbers using ones, tens, and hundreds. [2.NBT.2] [MP2, MP4] (N1)		2.8.E2. Use words and symbols (e.g., $<$ , $>$ , $=$ ) to show comparisons of quantities. [2.NBT.4] [MP2, MP4] (N1, A3)	
2.6.E3. Show and recognize different partitions of numbers using different representations (base-ten pieces, number lines, number sentences). [2.NBT.2, 2.NBT.3, 2.MD.6] [MP2, MP4] (N1, A3)		2.8.E3. Compare and order quantities. [2.NBT.4] [MP2, MP4, MP5] (N1)	
2.6.E4. Make connections between place value concepts and representations of numbers (e.g., base-ten pieces, number lines, number sentences, symbols). [2.NBT.2, 2.MD.6] [MP2, MP3, MP4, MP5, MP8] (N1)		2.8.E4. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)	
2.6.E5. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)			
2.6.E6. Estimate a quantity using 10 and 100 as benchmarks. [2.MD.3] [MP2, MP4, MP5] (N1)			
2.6.E7. Use words and symbols (e.g., $<$ , $>$ , $=$ ) to show comparisons of quantities. [2.NBT.4] [MP2, MP4] (N1, A3)			
2.6.E8. Compare and order three-digit numbers using base-ten pieces and a number line. [2.NBT.4] [MP2, MP4, MP5] (N1)			

## Key Idea Number 1: Number Sense *continued*

### Expectations

UNIT 10	UNIT 11	UNIT 12	UNIT 14
2.10.E1. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2, MP7] (N1, A3)	2.11.E1. Use words and symbols (e.g., $<$ , $>$ , $=$ ) to show comparisons of quantities (e.g., volumes). [2.NBT.4] [MP2, MP4] (N1, A3)	2.12.E1. Determine whether a group of objects has an odd or even number of members (e.g., by pairing objects or counting them by 2s). [2.OA.3] [MP2, MP3, MP6] (N1, A4)	2.14.E1. Use and apply place value concepts to make connections among representations of multidigit numbers using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)
	2.11.E2. Use and apply place value concepts and comparative language to compare and order volumes (e.g., greater, least, greater than, less than). [2.NBT.4] [MP2, MP4, MP5] (N1)		2.14.E2. Compose and decompose numbers using ones, tens, hundreds, and thousands. [2.NBT.2] [MP2, MP4] (N1)
			2.14.E3. Show and recognize different partitions of multidigit numbers using different representations (e.g., base-ten pieces, number lines, number sentences). [2.NBT.1, 2.NBT.7, 2.MD.6] [MP2, MP3] (N1)
			2.14.E4. Compare and order multidigit numbers using base-ten pieces, number lines, and symbols (e.g., $<$ , $>$ , $=$ ). [2.NBT.4] [MP2, MP4, MP5] (N1)

**Key Idea Number 2: Operations** Understand the meaning of numerical operations and their application for solving problems.

**Expectations**

UNIT 1	UNIT 2	UNIT 3	UNIT 4
2.1.E1. Represent addition and subtraction situations using multiple representations (e.g., stories, drawings, counters, number sentences, number lines, diagrams, ten frames). [2.OA.1, 2.MD.6] [MP4, MP5, MP6] (N2, A3)	2.2.E6. Represent addition and subtraction problems using counters, number lines, ten frames, drawings, and number sentences. [2.OA.1] [MP4, MP5] (N2, A3)	2.3.E3. Represent addition and subtraction using multiple representations (e.g., stories, drawings, diagrams, counters, number sentences, number lines, 200 Chart). [2.OA.1, 2.NBT.1, 2.NBT.7, 2.MD.6] [MP1, MP4, MP5] (N2, A3)	2.4.E3. Solve word problems (e.g., compare) involving length. (N2)
2.1.E2. Use mental math strategies and reasoning strategies (e.g., using doubles, making ten) to solve addition and subtraction problems within 20. [2.OA.2] [MP1, MP2, MP3, MP4, MP5, MP7, MP8] (N2)	2.2.E7. Solve word problems (e.g., join, separate/take away, part-whole, compare) involving two whole numbers whose sum is within 100. [2.OA.1] [MP1, MP3] (N2)	2.3.E4. Recognize that the equal sign represents the relationship between two equal quantities. [MP1, MP2, MP4] (N2, A3)	
2.1.E3. Use addition and subtraction to solve one- and two-step word problems involving join, separate/take away, part-whole, and compare situations. [2.OA.1, 2.MD.8] [MP1, MP2, MP3, MP5, MP6] (N2)		2.3.E5. Solve subtraction problems using counting strategies. [2.OA.2, 2.NBT.7, 2.NBT.8] [MP1, MP2] (N2)	
		2.3.E6. Use mental math strategies and reasoning strategies (e.g., using doubles, using ten, making ten, reasoning from known facts) to solve addition and subtraction problems within 20. [2.OA.1, 2.OA.2, 2.NBT.5, 2.NBT.9] [MP2, MP3, MP5] (N2, A4)	
		2.3.E7. Solve word problems (e.g., join, separate/take away, part-whole, compare) involving two whole numbers with a sum within 100 using counters, drawings, 200 Chart, and number lines. [2.OA.1, 2.OA.2, 2.NBT.5, 2.NBT.7, 2.MD.6] [MP1] (N2)	
UNIT 5	UNIT 7	UNIT 8	UNIT 9
2.5.E8. Solve addition and subtraction word problems (e.g., adding to, putting together, comparing) involving two or three whole numbers using number lines, number sentences, or the 200 Chart. [3.MD.2] [MP1, MP3, MP5] (N2)	2.7.E2. Represent addition problems using base-ten pieces, number lines, and number sentences. [2.NBT.1, 2.NBT.7, 2.MD.6] [MP2, MP3] (N2)	2.8.E5. Apply the properties of addition (e.g., commutative, associative) to write number sentences that represent mass. [2.NBT.5, 2.NBT.7] [MP7, MP8] (N2, A4)	2.9.E2. Represent subtraction problems using base-ten pieces and number lines. [2.NBT.1, 2.NBT.7, 2.MD.6] [MP2, MP3] (N2)
		2.8.E6. Solve addition and subtraction problems (e.g., part-whole, join, take away, compare) involving mass. [2.OA.1, 2.OA.4] [MP1, MP2, MP4, MP5, MP7] (N2)	



## Key Idea Number 2: Operations *continued*

### Expectations

UNIT 10	UNIT 11	UNIT 12	UNIT 14
2.10.E2. Solve problems (e.g., part-whole, join) involving volume. [2.OA.1, 2.OA.4] [MP1, MP2, MP4, MP5, MP7] (N2)	2.11.E3. Solve addition and subtraction word problems (e.g., part-whole, join, compare) involving volume. [2.OA.1] [MP1, MP3, MP4, MP5] (N2)	2.12.E2. Represent multiplication and division problems using tiles, drawings, number lines, rectangular arrays, and number sentences. [2.OA.1, 2.OA.4, 2.G.2] [MP1, MP2, MP4, MP5, MP6] (N2, A3)	2.14.E5. Represent addition and subtraction problems using base-ten pieces and number lines. [2.NBT.1, 2.NBT.7, 2.MD.6] [MP2, MP3] (N2)
2.10.E3. Apply the properties of addition (e.g., commutative, associative) to write number sentences that represent the volume of a building. [2.NBT.5, 2.NBT.7] [MP8] (N2, A4)		2.12.E3. Make connections between repeated addition and multiplication. [2.OA.4] [MP7, MP8] (N2, A4)	
2.10.E9. Construct a building plan given the volume (number of cubes), floor plan, and height. [2.OA.1, 2.OA.4] [MP1, MP2, MP4, MP5, MP6, MP7] (M2, N2)		2.12.E4. Write stories for multiplication and division sentences. [2.OA.4] [MP4, MP6] (N2)	
		2.12.E5. Distinguish between addition and multiplication situations. [2.OA.4] [MP1, MP2, MP3, MP4, MP8] (N2)	
		2.12.E6. Write a number sentence to express an even number as a sum of two equal addends. [2.OA.3] [MP2, MP4, MP5, MP7, MP8] (N2, A3)	
UNIT 15			
2.15.E1. Identify and extend patterns represented in numbers and in geometric patterns. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP7, MP8] (N2, A1, G4)			
2.15.E2. Represent patterns and functions using words and tables. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP6, MP7, MP8] (N2, A2, A3, G4)			

**Key Idea Number 3: Computation and Estimation** Use efficient and flexible procedures to compute accurately and make reasonable estimates.

**Expectations**

UNIT 1	UNIT 2	UNIT 3	UNIT 4
2.1.E7. Demonstrate fluency with the addition facts in Group A ( $0 + 1$ , $1 + 1$ , $2 + 1$ , $3 + 1$ , $0 + 2$ , $2 + 2$ , $3 + 2$ , $4 + 2$ ) and Group B ( $3 + 0$ , $4 + 0$ , $4 + 1$ , $5 + 1$ , $6 + 1$ , $5 + 2$ , $6 + 2$ , $5 + 3$ , $7 + 1$ , $1 + 8$ ). [2.OA.2] [MP8] (N3)	2.2.E11. Demonstrate fluency with the addition facts with sums to ten in Group C ( $1 + 9$ , $2 + 7$ , $2 + 8$ , $3 + 6$ , $3 + 7$ , $4 + 6$ , $5 + 5$ ). [2.OA.2] [MP2] (N3)	2.3.E10. Demonstrate fluency with the addition facts with sums to ten in Group D ( $3 + 3$ , $3 + 4$ , $4 + 4$ , $4 + 5$ ). [2.OA.2] (N3)	2.4.E11. Use math fact strategies to add (direct modeling, counting strategies, reasoning from known facts) for the facts in Group E ( $5 + 7$ , $8 + 4$ , $8 + 5$ , $9 + 3$ , $9 + 4$ , $9 + 5$ , $10 + 1$ , $10 + 2$ , $10 + 3$ ). [2.OA.2] [MP3, MP8] (N3)
2.1.E8. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Groups A and B. [2.OA.1] [MP2] (N3, A4)	2.2.E12. Use math fact strategies to add (direct modeling, counting strategies, reasoning from known facts) for the facts in Group C ( $2 + 9$ , $3 + 8$ , $4 + 7$ , $5 + 6$ ). [2.OA.2] [MP2] (N3)	2.3.E11. Use math fact strategies to add (direct modeling, counting strategies, reasoning from known facts) for the facts in Group D ( $6 + 6$ , $6 + 7$ , $7 + 7$ , $7 + 8$ , $8 + 8$ , $10 + 9$ , $10 + 10$ ). [2.OA.2] (N3)	2.4.E12. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)
	2.2.E13. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group C. [2.OA.1] (N3, A4)	2.3.E12. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group D. [2.OA.1] [MP1, MP2] (N3, A4)	

## Key Idea Number 3: Computation and Estimation *continued*

### Expectations

UNIT 5	UNIT 6	UNIT 7	UNIT 8
2.5.E14. Use math fact strategies to add (direct modeling, counting strategies, reasoning from known facts) for the facts in Group F (8 + 6, 9 + 6, 9 + 7, 10 + 4, 10 + 5, 10 + 6, 10 + 7, 10 + 8, 9 + 8, 9 + 9). [2.OA.2] [MP3, MP8] (N3)	2.6.E10. Demonstrate fluency with the addition facts in Group C (1 + 9, 2 + 7, 2 + 8, 2 + 9, 3 + 6, 3 + 7, 3 + 8, 4 + 6, 4 + 7, 5 + 5, 5 + 6) and Group D (3 + 3, 3 + 4, 4 + 4, 4 + 5, 6 + 6, 6 + 7, 7 + 7, 7 + 8, 8 + 8, 10 + 9, 10 + 10). [2.OA.2] (N3)	2.7.E3. Add two-digit and three-digit numbers using mental math strategies (e.g., composing and decomposing numbers, counting on) using the 200 Chart, base-ten pieces, and number lines. [2.OA.1, 2.NBT.2, 2.NBT.6, 2.NBT.8, 2.NBT.9, 2.MD.6] [MP1, MP2, MP5] (N3)	2.8.E12. Demonstrate fluency with the addition facts in Group F (8 + 6, 9 + 6, 9 + 7, 10 + 4, 10 + 5, 10 + 6, 10 + 7, 10 + 8, 9 + 8, 9 + 9). [2.OA.2] [MP2] (N3)
2.5.E15. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)	2.6.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Groups C and D. [2.OA.1] (N3, A4)	2.7.E4. Add two-digit and three-digit numbers using paper-and-pencil methods (e.g., expanded form, all-partials, compact). [2.OA.1, 2.NBT.2, 2.NBT.6, 2.NBT.9] [MP1, MP2, MP7] (N3)	2.8.E13. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.2] [MP2] (N3, A4)
		2.7.E5. Estimate the number of objects in a group using benchmarks. [2.NBT.1, 2.NBT.4] [MP2, MP3, MP5, MP6] (N3)	
		2.7.E6. Estimate sums using mental math strategies (e.g., rounding using benchmarks, using friendly numbers, composing and decomposing numbers, counting on). [2.NBT.8, 2.NBT.9] [MP2, MP3, MP5, MP6] (N3)	
		2.7.E7. Demonstrate fluency with the addition facts in Group E (5 + 7, 8 + 4, 8 + 5, 9 + 3, 9 + 4, 9 + 5, 10 + 1, 10 + 2, 10 + 3). [2.OA.1, 2.OA.2] (N3)	
		2.7.E8. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	

## Key Idea Number 3: Computation and Estimation *continued*

### Expectations

UNIT 9	UNIT 10	UNIT 11	UNIT 12
2.9.E3. Subtract multidigit numbers using mental math strategies (e.g., composing and decomposing numbers, counting up) with number lines, a 200 Chart, and base-ten pieces. [2.OA.1, 2.NBT.6, 2.NBT.8, 2.NBT.9, 2.MD.6] [MP1, MP2, MP5] (N3)	2.10.E10. Demonstrate fluency with the subtraction facts related to the addition facts in Group B (3 – 0, 4 – 0, 5 – 1, 5 – 4, 6 – 1, 6 – 5, 7 – 1, 7 – 2, 7 – 5, 7 – 6, 8 – 1, 8 – 2, 8 – 3, 8 – 5, 8 – 6, 8 – 7, 9 – 1, 9 – 8). [2.OA.1, 2.OA.2] (N3)	2.11.E9. Demonstrate fluency with the subtraction facts related to the addition facts in Group C (9 – 2, 9 – 3, 9 – 6, 9 – 7, 10 – 1, 10 – 2, 10 – 3, 10 – 4, 10 – 5, 10 – 6, 10 – 7, 10 – 8, 10 – 9, 11 – 2, 11 – 3, 11 – 4, 11 – 5, 11 – 6, 11 – 7, 11 – 8, 11 – 9). [2.OA.1, 2.OA.2] (N3)	2.12.E7. Solve multiplication and division problems using strategies (e.g., skip counting, repeated addition) with tiles, drawings, number lines, rectangular arrays, and number sentences. [2.OA.1, 2.OA.4, 2.OA.2] [MP1, MP2, MP3, MP5, MP6, MP7, MP8] (N3, A4)
2.9.E4. Subtract multidigit numbers using paper-and-pencil methods (e.g., expanded form, compact). [2.OA.1, 2.NBT.2, 2.NBT.6, 2.NBT.9] [MP1, MP2, MP7] (N3, A4)	2.10.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group B. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	2.11.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group C. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	2.12.E8. Divide a set of objects into equal-size groups. [2.OA.4] [MP1, MP2, MP3, MP5, MP6, MP7, MP8] (N3)
2.9.E5. Estimate differences using mental math strategies (e.g., rounding using benchmarks, using friendly numbers, composing and decomposing numbers, counting on). [2.NBT.8, 2.NBT.9] [MP2, MP3, MP5, MP6] (N3)			2.12.E9. Demonstrate fluency with the subtraction facts related to the addition facts in Group D (6 – 3, 7 – 3, 7 – 4, 8 – 4, 9 – 4, 9 – 5, 12 – 6, 13 – 6, 13 – 7, 14 – 7, 15 – 7, 15 – 8, 16 – 8, 19 – 10, 19 – 9, 20 – 10). [2.OA.1, 2.OA.2] (N3)
2.9.E6. Demonstrate fluency with the subtraction facts related to the addition facts in Group A (1 – 0, 1 – 1, 2 – 0, 2 – 1, 2 – 2, 3 – 1, 3 – 2, 4 – 1, 4 – 2, 4 – 3, 5 – 2, 5 – 3, 6 – 2, 6 – 4). [2.OA.1, 2.OA.2] (N3)			2.12.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group D. [2.OA.1, 2.OA.2] [MP2] (N3, A4)
2.9.E7. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group A. [2.OA.1, 2.OA.2] [MP2] (N3, A4)			

## Key Idea Number 3: Computation and Estimation *continued*

### Expectations

UNIT 13	UNIT 14	UNIT 15	
2.13.E10. Demonstrate fluency with the subtraction facts related to the addition facts in Group E (11 – 1, 11 – 10, 12 – 2, 12 – 3, 12 – 4, 12 – 5, 12 – 7, 12 – 8, 12 – 9, 12 – 10, 13 – 3, 13 – 4, 13 – 5, 13 – 8, 13 – 9, 13 – 10, 14 – 5, 14 – 9). [2.OA.2] [MP3, MP8] (N3)	2.14.E6. Add and subtract multidigit numbers using mental math strategies (e.g., composing and decomposing numbers, counting) with base-ten pieces and number lines. [2.OA.1, 2.NBT.6, 2.NBT.8, 2.NBT.9, 2.MD.6] [MP1, MP2, MP5] (N3)	2.15.E8. Demonstrate fluency with the subtraction facts related to the addition facts in Groups A–F. [2.OA.2] (N3)	
2.13.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)	2.14.E7. Add and subtract multidigit numbers using paper-and-pencil methods (e.g., expanded form, all-partials, compact). [2.OA.1, 2.NBT.9, 2MD.6] [MP1, MP2, MP7] (N3, A4)		
	2.14.E8. Estimate sums and differences using mental math strategies (e.g., rounding using benchmarks, using friendly numbers, composing and decomposing numbers, counting). [2.NBT.8, 2.NBT.9] [MP2, MP3, MP5, MP6] (N3)		
	2.14.E9. Demonstrate fluency with the subtraction facts related to the addition facts in Group F (14 – 4, 14 – 6, 14 – 8, 14 – 10, 15 – 5, 15 – 6, 15 – 9, 15 – 10, 16 – 6, 16 – 7, 16 – 9, 16 – 10, 17 – 7, 17 – 8, 17 – 9, 17 – 10, 18 – 8, 18 – 9, 18 – 10). [2.OA.1, 2.OA.2] (N3)		
	2.14.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.1] [MP2] (N3, A4)		

**Key Idea Algebra 1: Identifying Patterns** Identify and describe patterns and relationships, including how a change in one variable relates to a change in a second variable.

**Expectations**

UNIT 15
2.15.E1. Identify and extend patterns represented in numbers and in geometric patterns. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP7, MP8] (N2, A1, G4)

**Key Idea Algebra 2: Tables and Graphs** Represent patterns and relationships with graphs, tables, and diagrams.

UNIT 1	UNIT 2	UNIT 3	UNIT 4
2.1.E6. Read a table, bar graph, or picture graph to solve problems about a data set. [2.MD.10] [MP4, MP5, MP6] (D3, A2)	2.2.E9. Collect and organize data in a data table and bar graph. [2.MD.10] [MP5] (D2, A2)	2.3.E8. Draw a bar graph from a data table. [2.MD.10] (D2, A2)	2.4.E8. Make a table, bar graph, and line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP4, MP5] (D2, A2)
UNIT 5	UNIT 8	UNIT 11	UNIT 15
2.5.E11. Make a data table and a bar graph to find information about a data set. [2.MD.9] [MP1, MP4, MP5] (D2, A2)	2.8.E10. Make a scaled bar graph to find information about a data set. [2.MD.10] (D2, A2)	2.11.E6. Make a bar graph to find information about a data set. [2.MD.10] [MP2] (D2, A2)	2.15.E2. Represent patterns and functions using words and tables. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP6, MP7, MP8] (N2, A2, A3, G4)
	2.8.E11. Read a data table or bar graph to find information about a data set. [MP4, MP5] (D3, A2)		2.15.E5. Make a table, bar graph, or line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6] (D2, A2)
			2.15.E6. Read a table, bar graph, or line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6] (D3, A2)

**Key Idea Algebra 3: Symbols** Represent patterns and relationships with symbols (includes using variables in formulas and as unknowns in equations).

**Expectations**

UNIT 1	UNIT 2	UNIT 3	UNIT 4
2.1.E1. Represent addition and subtraction situations using multiple representations (e.g., stories, drawings, counters, number sentences, number lines, diagrams, ten frames). [2.OA.1, 2.MD.6] [MP4, MP5, MP6] (N2, A3)	2.2.E1. Represent and identify quantities (e.g., greater than 100) using groups of counters, drawings, symbols, number sentences, and words. [2.NBT.1, 2.NBT.3] [MP4, MP7] (N1, A3)	2.3.E3. Represent addition and subtraction using multiple representations (e.g., stories, drawings, diagrams, counters, number sentences, number lines, 200 Chart). [2.OA.1, 2.NBT.1, 2.NBT.7, 2.MD.6] [MP1, MP4, MP5] (N2, A3)	2.4.E1. Use words and symbols (e.g., <, >, =) to show comparisons of quantities (e.g., lengths). [2.NBT.4] [MP2, MP4] (N1, A3)
	2.2.E5. Use words and symbols (e.g., <, >, =) to show comparisons of quantities. [2.NBT.4] [MP2, MP6] (N1, A3)		
	2.2.E6. Represent addition and subtraction problems using counters, number lines, ten frames, drawings, and number sentences. [2.OA.1] [MP4, MP5] (N2, A3)	2.3.E4. Recognize that the equal sign represents the relationship between two equal quantities. [MP1, MP2, MP4] (N2, A3)	
2.5.E3. Show different partitions of numbers using connecting cubes, number lines, and number sentences (e.g., $154 = 100 + 50 + 4$ ). [2.NBT.2, 2.NBT.3, 2.MD.6] [MP2, MP4] (N1, A3)	2.6.E3. Show and recognize different partitions of numbers using different representations (base-ten pieces, number lines, number sentences). [2.NBT.2, 2.NBT.3, 2.MD.6] [MP2, MP4] (N1, A3)	2.8.E2. Use words and symbols (e.g., <, >, =) to show comparisons of quantities. [2.NBT.4] [MP2, MP4] (N1, A3)	2.10.E1. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2, MP7] (N1, A3)
2.5.E7. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)	2.6.E5. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)	2.8.E4. Recognize that different partitions of a number have the same total (e.g., $50 + 4 = 40 + 14$ ). [2.NBT.2] [MP2] (N1, A3)	
	2.6.E7. Use words and symbols (e.g., <, >, =) to show comparisons of quantities. [2.NBT.4] [MP2, MP4] (N1, A3)		
UNIT 11	UNIT 12	UNIT 15	
2.11.E1. Use words and symbols (e.g., <, >, =) to show comparisons of quantities (e.g., volumes). [2.NBT.4] [MP2, MP4] (N1, A3)	2.12.E2. Represent multiplication and division problems using tiles, drawings, number lines, rectangular arrays, and number sentences. [2.OA.1, 2.OA.4, 2.G.2] [MP1, MP2, MP4, MP5, MP6] (N2, A3)	2.15.E2. Represent patterns and functions using words and tables. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP6, MP7, MP8] (N2, A2, A3, G4)	
2.11.E7. Read a table and bar graph to find information about a data set. [2.MD.10] [MP2, MP7, MP8] (D3, A3)			2.12.E6. Write a number sentence to express an even number as a sum of two equal addends. [2.OA.3] [MP2, MP4, MP5, MP7, MP8] (N2, A3)

**Key Idea Algebra 4: Using Patterns** Apply relationships, properties, and patterns to solve problems, develop generalizations, or make predictions.

**Expectations**

UNIT 1	UNIT 2	UNIT 3	UNIT 4
2.1.E8. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Groups A and B. [2.OA.1] [MP2] (N3, A4)	2.2.E2. Use and apply place value concepts to make connections among representations of numbers. [2.NBT.1, 2.NBT.3] [MP7] (N1, A4)	2.3.E1. Identify, describe, and use patterns on the 200 Chart and number line. [2.MD.6] [MP3, MP4, MP6, MP7, MP8] (N1, A4)	2.4.E2. Use and apply place value concepts and comparative language to compare and order lengths (e.g., shorter, longer, shortest, longest). [2.NBT.4] [MP2, MP4, MP5] (N1, A4)
	2.2.E10. Use a table or bar graph to solve problems about a data set. [2.MD.10] [MP2, MP5] (D4, A4)	2.3.E2. Connect representations of quantities using number lines, 200 Charts, and number sentences. [2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.4.E10. Use a table, bar graph, and line plot to solve problems about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP4, MP7, MP8] (D4, A4)
	1.2.E13. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group C. [2.OA.1] (N3, A4)	2.3.E6. Use mental math strategies and reasoning strategies (e.g., using doubles, using ten, making ten, reasoning from known facts) to solve addition and subtraction problems within 20. [2.OA.1, 2.OA.2, 2.NBT.5, 2.NBT.9] [MP2, MP3, MP5] (N2, A4)	2.4.E12. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)
		2.3.E9. Read a bar graph or table to find information about a data set. [MP4, MP5] (D3, A4)	
		2.3.E12. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group D. [2.OA.1] [MP1, MP2] (N3, A4)	
UNIT 5	UNIT 6	UNIT 7	UNIT 8
2.5.E12. Read a data table and bar graph to find information about a data set. [2.MD.9] [MP2, MP4, MP5] (D3, A4)	2.6.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Groups C and D. [2.OA.1] (N3, A4)	2.7.E1. Use and apply place value concepts to make connections among representations of numbers to the thousands using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.8.E5. Apply the properties of addition (e.g., commutative, associative) to write number sentences that represent mass. [2.NBT.5, 2.NBT.7] [MP7, MP8] (N2, A4)
2.5.E13. Make predictions and generalizations about a data set using a data table and graph. [2.MD.9] [MP1, MP2, MP4, MP7, MP8] (D4, A4)		2.7.E8. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	2.8.E13. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.2] [MP2] (N3, A4)
2.5.E15. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)			



## Key Idea Algebra 4: Using Patterns *continued*

### Expectations

UNIT 9	UNIT 10	UNIT 11	UNIT 12
2.9.E1. Use and apply place value concepts to make connections among representations of numbers to the thousands using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.10.E3. Apply the properties of addition (e.g., commutative, associative) to write number sentences that represent the volume of a building. [2.NBT.5, 2.NBT.7] [MP8] (N2, A4)	2.11.E8. Use a table and bar graph to solve problems about a data set. [2.MD.10, 2.OA.1] [MP2, MP7, MP8] (D4, A4)	2.12.E1. Determine whether a group of objects has an odd or even number of members (e.g., by pairing objects or counting them by 2s). [2.OA.3] [MP2, MP3, MP6] (N1, A4)
2.9.E4. Subtract multidigit numbers using paper-and-pencil methods (e.g., expanded form, compact). [2.OA.1, 2.NBT.2, 2.NBT.6, 2.NBT.9] [MP1, MP2, MP7] (N3, A4)	2.10.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group B. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	2.11.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group C. [2.OA.1, 2.OA.2] [MP2] (N3, A4)	2.12.E3. Make connections between repeated addition and multiplication. [2.OA.4] [MP7, MP8] (N2, A4)
2.9.E7. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group A. [2.OA.1, 2.OA.2] [MP2] (N3, A4)			2.12.E7. Solve multiplication and division problems using strategies (e.g., skip counting, repeated addition) with tiles, drawings, number lines, rectangular arrays, and number sentences. [2.OA.1, 2.OA.4, 2.OA.2] [MP1, MP2, MP3, MP5, MP6, MP7, MP8] (N3, A4)
			2.12.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group D. [2.OA.1, 2.OA.2] [MP2] (N3, A4)
UNIT 13	UNIT 14	UNIT 15	
2.13.E8. Find the area of a shape on a grid using counting, repeated addition, and reasoning strategies. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1, G4, A4)	2.14.E1. Use and apply place value concepts to make connections among representations of multidigit numbers using base-ten pieces, number lines, expanded form, and standard form. [2.NBT.1, 2.MD.6] [MP2, MP3, MP6, MP7, MP8] (N1, A4)	2.15.E7. Make predictions and generalizations using patterns in tables and graphs. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8] (D4, A4, G2)	
2.13.E11. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group E. [2.OA.1] [MP1, MP2, MP7, MP8] (N3, A4)	2.14.E7. Add and subtract multidigit numbers using paper-and-pencil methods (e.g., expanded form, all-partials, compact). [2.OA.1, 2.NBT.2, 2.NBT.6, 2.NBT.9] [MP1, MP2, MP7] (N3, A4)		
	2.14.E10. Determine the unknown number in an addition or subtraction sentence relating three whole numbers for the facts in Group F. [2.OA.1] [MP2] (N3, A4)		

**Key Idea Geometry 1: Shapes** Identify, describe, classify, and analyze 2- and 3-dimensional shapes based on their properties.

**Expectations**

UNIT 10	UNIT 13	
2.10.E4. Make connections between a building of cubes, the building plan, and number sentences. [2.NBT.5, 2.G.1, 2.G.2] [MP2, MP4, MP7] (G1, G4)	2.13.E1. Identify, describe, sort, and draw 2-dimensional shapes based on their attributes (e.g., square corners, number of sides, number of angles, number of parallel sides). [2.G.1] [MP3, MP6, MP8] (G1)	
2.10.E5. Identify shapes that are the same size and shape. [3.MD.2] [MP2, MP5, MP6] (G1)		

**Key Idea Geometry 2: Orientation and Location** Use coordinate systems to specify locations and describe spatial relationships.

UNIT 15	
2.15.E3. Describe the location of an object relative to an origin using direction and distance. [2.MD.1] [MP4, MP5, MP6] (G2)	
2.15.E7. Make predictions and generalizations using patterns in tables and graphs. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8] (D4, A4, G2)	

## Key Idea Geometry 4: Geometric Reasoning

Use visualization, spatial reasoning, and geometric modeling to solve problems.

### Expectations

UNIT 10	UNIT 13	UNIT 15	
<p>2.10.E4. Make connections between a building of cubes, the building plan, and number sentences. [2.NBT.5, 2.G.1, 2.G.2] [MP2, MP4, MP7] (G1, G4)</p>	<p>2.13.E2. Partition shapes and sets into equal shares. [2.G.3] [MP1, MP2, MP3, MP4, MP5, MP6] (G4)</p>	<p>2.15.E1. Identify and extend patterns represented in numbers and in geometric patterns. [2.OA.1, 2.OA.3] [MP2, MP3, MP4, MP5, MP7, MP8] (N2, A1, G4)</p>	
	<p>2.13.E3. Partition a rectangle into rows and columns of the same size unit to find the area. [2.G.3] [MP1, MP2, MP3, MP4, MP5] (G4, M2)</p>		
	<p>2.13.E4. Use words and models to describe equal shares (e.g., half, half of). [2.G.3] [MP4, MP5, MP6] (G4)</p>		
	<p>2.13.E5. Recognize that equal shares of the same whole do not have to be the same shape. [2.G.3, 2.G.2] [MP2, MP3, MP4, MP5, MP6, MP7] (G4)</p>		
	<p>2.13.E6. Compose and decompose shapes into smaller shapes. [2.G.1] [MP2, MP5, MP6, MP8] (G4)</p>		
	<p>2.13.E8. Find the area of a shape on a grid using counting, repeated addition, and reasoning strategies. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1, G4, A4)</p>		

**Key Idea Measurement 1: Measurement Concepts** Understand measurable attributes of objects or situations (length, area, mass, volume, size, time) and the units, systems, and processes of measurement.

**Expectations**

UNIT 1	UNIT 2	UNIT 4	UNIT 8
2.1.E4. Identify the relationship between pennies, nickels, dimes, and quarters. [2.MD.8] [MP7, MP8] (M1)	2.2.E8. Sort and classify objects by their characteristics. [2.G.1] [MP7] (M1)	2.4.E4. Recognize that the measure of a length is dependent on the size of the unit of measure (e.g., a pencil is 6 inches or 15 centimeters). [2.MD.2] [MP1, MP2, MP3, MP5, MP6, MP7] (M1)	2.8.E7. Measure and compare the mass of objects using a two-pan balance and standard gram masses. [3.MD.2] [MP2, MP5, MP6] (M1)
2.1.E5. Find the value of a collection of pennies, nickels, dimes, and quarters. [2.MD.8, 2.OA.1] [MP1, MP2, MP4, MP5, MP6] (M1)			2.8.E8. Solve elapsed-time problems involving time measurements to the nearest five minutes. [2.MD.7] [MP1, MP2, MP5, MP6] (M1)
UNIT 10	UNIT 13		
2.10.E6. Recognize that different shapes can have the same volume. [5.MD.3] [MP2] (M1)	2.13.E7. Recognize that the same fractional parts of different-size unit wholes are not equal. [2.G.3] [MP1, MP2, MP4, MP6, MP8] (M1)		
2.10.E7. Identify and measure the dimensions (floor plan, height) of a building. [2.NBT.9, 2.NBT.5] (M1)	2.13.E8. Find the area of a shape on a grid using counting, repeated addition, and reasoning strategies. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1, G4, A4)		
	2.13.E9. Recognize that different shapes can have the same area. [2.G.2] [MP1, MP2, MP3, MP4, MP5, MP6, MP8] (M1)		

**Key Idea Measurement 2: Measurement Skills** Use measurement tools, appropriate techniques, and formulas to determine measurements.

**Expectations**

UNIT 4	UNIT 5	UNIT 6	UNIT 8
2.4.E5. Estimate length using nonstandard (palms, footprints) and standard (centimeters, meters, inches, feet, yards) units. [2.MD.3] [MP1, MP2, MP5] (M2)	2.5.E9. Read and write time to the nearest hour and half hour using analog and digital clocks. [2.MD.7] [MP5] (M2)	2.6.E9. Tell and write time from an analog clock to the nearest five minutes. [2.MD.7] (M2)	2.8.E9. Read and write time to the nearest five minutes using analog and digital clocks. [2.MD.7] (M2)
2.4.E6. Measure length using nonstandard (palms, footprints) and standard (centimeters, meters, inches, feet, yards) units. [2.MD.1, 2.MD.2] [MP1, MP3, MP5, MP6] (M2)	2.5.E10. Measure volume of containers using nonstandard units. [3.MD.2] [MP2, MP5] (M2)		
2.4.E7. Select and use appropriate measuring units (e.g., centimeters, meters, yards, inches, feet). [2.MD.2] [MP2, MP3, MP4, MP5] (M2)			
UNIT 10	UNIT 11	UNIT 13	UNIT 15
2.10.E8. Count and add cubic units to find volume. [2.NBT.2, 2.OA.4, 5.MD.3] [MP1, MP2, MP4, MP7] (M2)	2.11.E4. Read and interpret a variety of scales (e.g., graduated cylinder, thermometer) calibrated by twos, fives, and tens. [2.OA.3, 2.NBT.2] [MP2, MP3, MP5, MP6, MP7] (M2)	2.13.E3. Partition a rectangle into rows and columns of the same size unit to find the area. [2.G.3] [MP1, MP2, MP3, MP4, MP5] (G4, M2)	2.15.E4. Measure length using nonstandard and standard units. [2.MD.1] [MP4, MP5, MP6] (M2)
2.10.E9. Construct a building plan given the volume (number of cubes), floor plan, and height. [2.OA.1, 2.OA.4] [MP1, MP2, MP4, MP5, MP6, MP7] (M2, N2)	2.11.E5. Measure volume by displacement using a graduated cylinder. [2.OA.1, 2.NBT.5, 2.NBT.8] [MP1, MP2, MP3] (M2)		

**Key Idea Data 2: Data Representation** Select and create appropriate representations, including tables and graphs, for organizing, displaying, and analyzing data.

**Expectations**

UNIT 2	UNIT 3	UNIT 4	UNIT 5
2.2.E9. Collect and organize data in a data table and bar graph. [2.MD.10] [MP5] (D2, A2)	2.3.E8. Draw a bar graph from a data table. [2.MD.10] (D2, A2)	2.4.E8. Make a table, bar graph, and line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP4, MP5] (D2, A2)	2.5.E11. Make a data table and a bar graph to find information about a data set. [2.MD.9] [MP1, MP4, MP5] (D2, A2)
UNIT 8	UNIT 11	UNIT 15	
2.8.E10. Make a scaled bar graph to find information about a data set. [2.MD.10] (D2, A2)	2.11.E6. Make a bar graph to find information about a data set. [2.MD.10] [MP2] (D2, A2)	2.15.E5. Make a table, bar graph, or line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6] (D2, A2)	

**Key Idea Data 3: Data Description** Describe a data set by interpreting graphs, identifying patterns, and using statistical measures; e.g., average and range.

UNIT 1	UNIT 3	UNIT 4	UNIT 5
2.1.E6. Read a table, bar graph, or picture graph to solve problems about a data set. [2.MD.10] [MP4, MP5, MP6] (D3, A2)	2.3.E9. Read a bar graph or table to find information about a data set. [MP4, MP5] (D3, A4)	2.4.E9. Read a table, bar graph, and line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP2, MP4, MP5] (D3, A3)	2.5.E12. Read a data table and bar graph to find information about a data set. [2.MD.9] [MP2, MP4, MP5] (D3, A4)
UNIT 8	UNIT 11	UNIT 15	
2.8.E11. Read a data table or bar graph to find information about a data set. [MP4, MP5] (D3, A2)	2.11.E7. Read a table and bar graph to find information about a data set. [2.MD.10] [MP2, MP7, MP8] (D3, A3)	2.15.E6. Read a table, bar graph, or line plot to find information about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6] (D3, A2)	

**Key Idea Data 4: Using Data** Apply relationships and patterns in data to solve problems, develop generalizations, and make predictions.

UNIT 2	UNIT 4	UNIT 5	UNIT 11
2.2.E10. Use a table or bar graph to solve problems about a data set. [2.MD.10] [MP2, MP5] (D4, A4)	2.4.E10. Use a table, bar graph, and line plot to solve problems about a data set. [2.MD.9, 2.MD.10] [MP1, MP2, MP4, MP7, MP8] (D4, A4)	2.5.E13. Make predictions and generalizations about a data set using a data table and graph. [2.MD.9] [MP1, MP2, MP4, MP7, MP8] (D4, A4)	2.11.E8. Use a table and bar graph to solve problems about a data set. [2.MD.10, 2.OA.1] [MP2, MP7, MP8] (D4, A4)
UNIT 15			
2.15.E7. Make predictions and generalizations using patterns in tables and graphs. [2.MD.9, 2.MD.10] [MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8] (D4, A4, G2)			

## Notes

## Notes



## Notes

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