

Counting and Cardinality Number and Operations in Base Ten Operations and Algebraic Thinking				
Topic	Grade K	Grade 1	Grade 2	
Count and Represent Numbers	Understand 0–5 by using objects to represent and count. (Lessons 1.1–1.4) Understand how to represent 5 in more than one way by using two groups of objects or drawings to represent 5. (Lesson 1.5) Understand 6–10 by using objects to represent and count. (Lessons 7.1–7.3) Use various objects to represent and count to 20. (Lessons 17.4)			
Count and Write Numbers	Understand each successive number refers to a quantity that is one larger by using objects to demonstrate the order of numbers. (Lesson 2.5) Use objects to count and order numbers to 10. (Lesson 8.4) Understand the count sequence by counting to 100 by one and by tens. (Lessons 9.1–9.2) Understand the count sequence by counting on from a given number. (Lesson 9.3)			
Counting Sequence and Counting Patterns	Understand each successive number refers to a quantity that is one larger by using objects to demonstrate the order of numbers. (Lesson 2.5) Use objects to count and order numbers to 10. (Lesson 8.4) Understand the count sequence by counting to 100 by one and by tens. (Lessons 9.1–9.2) Understand the count sequence by counting on from a given number. (Lesson 9.3)	Count forward by ones from any number to 120. (Lesson 10.1)	Extend counting sequences and number patterns within 1,000, counting by ones, fives, tens, and hundreds. (Lessons 6.1 and 6.3) Use counting by twenty-fives and tens, and counting on by tens, fives, and ones, to find the total value of a combination of coins. (Lesson 7.2)	

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Place Value of Whole Numbers	Compose numbers 11 to 19 with ten ones and some more ones using objects and numerals. (Lessons 17.1–17.3)	Represent numbers 11–19 as 1 ten and ones using objects, drawings, and numerals. (Lessons 9.1–9.2) Represent groups of ten in the range 10–90 with drawings and numerals. (Lesson 9.3) Represent two-digit numbers as tens and ones using objects, drawings, and numerals. (Lessons 10.2–10.4) Represent numbers from 100 to 120 as tens and ones using objects, drawings, and numerals. (Lessons 10.5–10.6)	Understand that each group of 10 tens is equivalent to 1 hundred (100). (Lesson 4.1) Write three-digit numbers three ways to represent multiple groups of 10. (Lesson 4.2) Use visual models, concrete models, and place-value understanding to write and represent three-digit numbers in multiple ways. (Lessons 4.3–4.4) Use place value to describe the values of digits in numbers to 1,000. (Lesson 4.5) Draw and write to represent three-digit numbers in multiple ways including using expanded form, number names, and as hundreds, tens, and ones. (Lessons 5.1–5.3) Apply place-value concepts to show and write a three-digit number in different ways. (Lessons 5.4–5.5) Identify 10 more, 10 less, 100 more, or 100 less than a given number. (Lesson 6.2) Relate place value to pennies and dimes. (Lesson 7.1)	



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Compare Numbers	Use objects and drawings to identify the group that has a number of objects greater than or less than the number of objects in another group. (Lessons 3.1–3.2) Understand comparing equal groups by counting and matching groups with an equal number of objects. (Lessons 3.3 and 10.3) Use counting to identify the group that has a number of objects greater than or less than the number of objects in another group. (Lessons 3.4 and 10.4) Use matching to identify the group that has a number of objects greater than or less than the number of objects in another group. (Lessons 3.5, 10.1–10.2, and 10.5) Compare two numbers. (Lessons 3.6 and 10.6)	Use place value to compare two-digit numbers and determine which is greater or less. (Lessons 11.1–11.2) Use place value and the symbols >, <, and = to compare two-digit numbers. (Lesson 11.3) Compare two-digit numbers to solve problems. (Lesson 11.4)	Draw visual models to solve problems involving number comparisons. (Lesson 6.4) Compare two three-digit numbers using >, =, and < symbols	
Properties of Operations		Represent and apply the Commutative property of addition for sums within 20. (Lesson 3.1–3.2) Represent and apply the Associative property of addition for sums within 20. (Lesson 3.3–3.4)	Find sums of three addends by applying the Commutative and Associative Properties of Addition. (Lesson 1.7) Find sums for basic facts by applying the Commutative and Identity Properties. (Lessons 1.2)	

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Addition	Represent and solve addition problems, using objects, drawing, and acting out,. (Lessons 5.1, 5.3, 6.1, and 11.1) Understand how to represent and solve addition problems with drawings and equations. (Lesson 5.5, 5.7, 6.3, 11.3, 11.5, and 12.1) Solve addition problems with mental images, drawings, and equations. (Lesson 6.5) Decompose the numbers 6 to 10 into pairs in more than one way using objects or drawings and equations. (Lessons 13.1–13.4) Use drawings to find the number that makes 10 when added to a given number. (Lesson 13.5)	Represent addition of two 1-digit addends using objects, drawings, and equations. (Lesson 1.1) Use count on and make a 10 strategies to solve addition problems (Lessons 1.2, 1.4, 12.6, and 12.7) Represent adding 10 and a number less than 10 using objects, drawings, and equations. (Lesson 1.3) Represent and solve doubles facts and near-doubles facts. (Lessons 1.5–1.6) Choose and apply strategies to solve addition problems. (Lessons 1.7 and 3.5) Develop fluency for addition within 10. (Lesson 3.7) Add multiples of ten. (Lessons 12.1 and 12.3) Add tens and ones using a hundred chart, drawings, and equations. (Lessons 12.4, 12.5, and 13.1) Use mental math to find 10 less than and 10 more than a number. (Lesson 12.8) Add two-digit numbers within 100 using place value. (Lesson 13.2) Apply strategies to solve addition facts to 100. (Lessons 13.4–13.6)	Find sums for basic facts using addition strategies. (Lessons 1.1–1.2 and 1.5) Use a hundred chart and a number line as tools to solve two-digit addition problems. (Lessons 10.1–10.3) Use place-value understanding to find a sum by decomposing one addend or both addends. (Lessons 11.1 and 11.3–11.4) Solve two-digit addition problems involving regrouping ones as tens. (Lessons 12.1, 12.3, and 12.5) Rewrite an addition problem given in horizontal form as a vertical addition algorithm and find the sum. (Lesson 13.1) Find the sum of three or four two-digit numbers. (Lessons 13.4–13.5) Draw quick pictures to represent and solve three-digit addition problems. (Lesson 16.1) Apply place-value concepts when decomposing addends to solve three-digit addition problems. (Lesson 16.2) Record three-digit addition using the standard algorithm with possible regrouping of ones and/or tens. (Lessons 16.3–16.4 and 17.6)	



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Topic	Grade K	Grade 1	Grade 2	
Exploring Equality	Understand comparing equal groups by counting and matching groups with an equal number of objects. (Lessons 3.3 and 10.3)	Analyze equations to determine whether both sides are equal. (Lesson 3.6)	Classify numbers up to 20 as even or odd. (Lesson 2.1) Write equations with equal addends to represent even numbers. (Lesson 2.2) Represent and solve problems involving equal groups. (Lesson 2.3) Write equations using repeated addition of equal groups to find the total number of objects in arrays. (Lessons 2.4–2.5)	
Subtraction	Represent and solve subtraction problems using objects, drawings, and acting out. (Lessons 5.2, 5.4, 6.2, and 11.2) Understand how to represent and solve subtraction problems with drawings and equations. (Lessons 5.6–5.7, 6.4, 11.4, 11.6, and 12.2) Solve subtraction problems with mental images, drawings, and equations. (Lesson 6.6)	Represent subtraction within 20 using objects, drawings, and equations. (Lesson 2.1) Solve basic subtraction facts using addition, along with count on, count back, and make a ten strategies. (Lessons 2.2–2.6) Develop fluency with subtraction within 10. (Lesson 4.7) Subtract multiples of ten. (Lessons 12.2–12.3) Use mental math to find 10 less than and 10 more than a number. (Lesson 12.8) Subtract multiples of ten from multiples of ten using place value or a hundred chart. (Lessons 13.1 and 13.3) Apply strategies to solve subtraction facts to 100. (Lessons 13.4–13.6)	Find differences for basic facts using subtraction strategies. (Lessons 1.4 and 1.6) Use a hundred chart and a number line as tools for two-digit subtraction. (Lessons 10.1–10.3) Use place-value understanding to find a difference by decomposing the subtrahend. (Lessons 11.2 and 11.5) Solve two-digit subtraction problems involving regrouping tens as ones. (Lessons 12.2, 12.4, and 12.6) Rewrite a subtraction problem given in horizontal form as vertical subtraction algorithm and find the difference. (Lesson 13.2) Count on using a number line to find differences. (Lesson 13.3) Use concrete and visual models to solve problems involving three-digit subtraction. (Lessons 17.1–17.5) Record three-digit subtraction using the standard algorithm with possible regrouping in all positions. (Lessons 17.2–17.6)	

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The Addition and Subtraction Relationship		Use addition to solve related subtraction facts. (Lesson 4.1) Represent and solve related facts using objects, pictures, and equations. (Lesson 4.2–4.3) Use a related addition fact to check subtraction. (Lesson 4.4) Use the relationship between addition and subtraction to find an unknown addend. (Lessons 4.5–4.6)	Use the inverse relationship of addition and subtraction to solve basic facts. (Lesson 1.3)	
Addition and Subtraction Situations— Problem Types	Use drawings, equations, and acting out to represent and solve Add To and Take From word problems. (Lessons 5.3–5.6 and 11.1–11.6) Use equations to model how to solve Add To and Take From word problems. (Lessons 5.7 and 11.7) Use objects, drawings, and equations to represent and solve Put Together and Take Apart word problems. (Lessons 6.3–6.4 and 12.1–12.4) Use equations to model how to solve Put Together and Take Apart word problems. (Lessons 6.7 and 12.5)	Use objects and drawings to show Add To and Take From Result Unknown, Change Unknown, and Start Unknown word problems, and write equations to match and solve the problem. (Lessons 5.1–5.4) Use objects, drawings, equations, and bar models to represent and solve Put Together and Take Apart Total Unknown, Addend Unknown, or Both Addends Unknown word problems. (Lessons 6.1–6.7) Use objects, drawings, equations, bar models, and stategies to represent and solve Compare Difference Unknown, Bigger Unknown, and Smaller Unknown word problems. (Lessons 7.1–7.6) Write equations to model and solve various problem types of addition and subtraction word problems. (Lesson 7.7)	Use bar models and equations to represent and solve various problem types of addition and subtraction word problems. (Lessons 14.1–14.4 and 15.3) Represent addition situations of various problem types with equations using a symbol for the unknown number, and solve. (Lessons 14.2–14.3 and 15.1) Represent subtraction situations of various problem types with equations using a symbol for the unknown number, and solve. (Lessons 14.2, 14.4, and 15.2) Evaluate multistep word problems of various problem types to determine the operations to use to solve, and write equations to represent and solve the multistep problems. (Lesson 15.3)	



Measurement Measurement				
Topic	Grade K	Grade 1	Grade 2	
Length and Height Mass and Weight	Understand how to describe attributes of length and height. (Lesson 19.1) Understand how to compare the lengths and heights of two objects. (Lessons 19.2–19.3) Understand how to describe attributes of weight. (Lesson 20.1) Understand how to compare the weights of two objects and describe the difference. (Lesson 20.2) Understand how to describe attributes of weight, length, and height. (Lesson 20.3)	Compare the lengths of two or three objects. Order three objects by length. (Lessons 17.1–17.2) Use nonstandard units to to measure the length of objects. (Lesson 17.3) Use nonstandard units to make a measuring tool and use the tool to measure the length of objects. (Lesson 17.4)	Estimate the lengths of objects by mentally partitioning the lengths into inches, feet, or yards. (Lessons 18.1, 18.5, and 18.7) Generate (using 1-inch tiles) and use a paper ruler without and with numbers to measure objects. (Lesson 18.2) Measure the lengths of objects using inches and/or feet. (Lessons 18.3–18.4 and 18.6) Select appropriate tools for measuring different objects. (Lesson 18.8) Estimate and measure lengths of objects in centimeters and/or meters. (Lessons 19.1–19.4) Explore the relationship between inch units on a measuring tool and units on a number line, and use a yardstick to solve addition and subtraction problems. (Lesson 20.1) Explore the relationship between centimeter units on a measuring tool and units on a number line, and use a centimeter ruler or a meter stick to solve addition and subtraction problems. (Lesson 20.3) Use a visual model to solve addition and subtraction problems. (Lesson 20.3) Use a visual model to solve addition and subtraction problems involving the lengths of objects. (Lessons 20.2 and 20.4–20.5)	

Measurement				
Topic	Grade K	Grade 1	Grade 2	
Money			Find the total value of a combination of coins. (Lessons 7.1–7.3) Order coins in a combination by value and then find the total value. (Lesson 7.3) Identify and apply the relative values of different coins to one another, showing two different ways to make an amount. (Lesson 7.4) Show the value of one dollar in different ways using coins. (Lesson 8.1) Find the total dollar value of a combination of bills. (Lesson 8.2) Solve problems involving money. (Lesson 8.3)	
Time		Tell and write time to the hour and half hour on analog and digital clocks. (Lessons 18.1–18.4)	Tell and write time to the nearest five minutes on digital and analog clocks. (Lessons 9.1–9.4) Write the time in different ways. (Lessons 9.2–9.4) Use a.m or p.m. to describe time. (Lesson 9.4)	



Data			
Topic	Grade K	Grade 1	Grade 2
Interpret Data	Classify objects by color, shape, or size, and count the number of objects in each category. (Lessons 4.1–4.3) Sort data categories by count. (Lesson 4.4)	Read and interpret a picture graph to answer questions. (Lessons 8.1–8.2) Read and interpret a tally chart to answer questions. (Lessons 8.3–8.4 and 8.7) Read and interpret a bar graph to answer questions. (Lessons 8.5–8.7)	Read and interpret a tally chart to solve problems. (Lesson 3.1) Read and interpret a picture graph to solve problems. (Lessons 3.2 –3.3) Read and interpret a bar graph to solve problems. (Lessons 3.4–3.5)
		Data	
Represent Data	Sort data categories by count. (Lesson 4.4)	Complete a picture graph to match given information. (Lesson 8.2) Complete a tally chart to match given information. (Lessons 8.4, 8.7) Complete a bar graph to match given information. (Lessons 8.6–8.7)	Collect data in a survey and record the data in a tally chart. (Lesson 3.1) Complete picture graphs and bar graphs to represent data. (Lessons 3.3 and 3.5) Use a line plot to display generated measurement data. (Lesson 18.4)

Geometry				
Three- Dimensional Shapes	Identify and describe spheres, cubes, cylinders, and cones by using words, comparing shapes, and identifying their attributes. (Lessons 14.1–14.4) Understand how to use clay and sticks to build a solid shape. (Lesson 14.5) Understand the terms above, below, next to, beside, in front of, and behind to locate and identify three-dimensional objects. (Lessons 15.1–15.3)	Describe, trace, and identify three-dimensional shapes. (Lesson 14.1) Combine three-dimensional shapes to make combined shapes. (Lesson 14.2) Make a new composite shape by putting together multiple combined shapes. (Lesson 14.3)	Identify and describe three-dimensional shapes according to the number of faces, edges, and vertices. (Lesson 21.1)	
Two- Dimensional Shapes	Identify and describe circles, squares, triangles, rectangles, and hexagons by using words and comparing with other two-dimensional shapes. (Lessons 16.1–16.5) Compose simple shapes using other shapes and join them together. (Lesson 16.6) Compare and contrast two-dimensional and three-dimensional shapes. (Lesson 16.7)	Use attributes to sort and describe two-dimensional shapes. (Lesson 15.1) Describe, draw, and identify two-dimensional shapes using understanding of attributes. (Lesson 15.2) Combine two-dimensional shapes to make a combined named or new shape. (Lessons 15.3–15.4) Make a named or new composite shape by putting together multiple combined shapes. (Lesson 15.5)	Draw and name three-, four-, five-, and six-sided shapes according to the number of sides and vertices. (Lesson 21.2) Identify the number of angles in two-dimensional shapes. (Lesson 21.3) Sort two-dimensional shapes according to their attributes. (Lesson 21.4)	
Fraction Foundations		Draw to show multiple samesize shapes within a circle or rectangle. (Lesson 16.1) Draw to show equal or unequal shares in a circle or rectangle. (Lesson 16.2) Draw and color to show halves and fourths of circles and rectangles. (Lessons 16.3–16.4)	Partition rectangles into same-sized squares and find the total number of these squares. (Lesson 22.1) Identify, name, and partition equal shares of circles and rectangles as halves, thirds, or fourths. (Lessons 22.2–22.4) Use visual models to show that equal shares of the same wholes do not need to have the same shape. (Lesson 22.5)	





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