This scope and sequence shows the progression of concepts and skills for each domain of mathematical content: Counting and Cardinality (Kindergarten only), Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations—Fraction (Grades 3–5 only), Measurement, Data, and Geometry.

The numbers in the cells indicate the unit(s) that address the concepts and skills listed.

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units			
Counting and Cardinality									
Know number names and the count sequence.									
Count to 10 by ones	12								
Count to 10 by tens.	12								
Count forward from a given number	12								
Write numbers from 0 to 20.	3, 9								
Represent up to 20 objects with a written numeral.	9, 10								
Count to tell the number of objects.									
Understand the relationship between numbers and quantities.	2, 3								
Connect counting to cardinality	2, 3								
Count objects, saying the number names in the standard order	2, 3								
Pair each object counted with one and only one number name and vice versa	2, 3								
Understand that each successive number name represents one more.	2, 3								
Understand that the last number said tells the number of objects in a group.	2, 3								
Understand that the number of objects in a given group is the same regardless of their arrangement.	2, 3								

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	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units			
Count to tell the number of objects.									
Count to know how many objects in a group of up to 10 objects in a scattered formation.	2, 3								
Count to know how many objects in a group of up to 20 objects in a line, rectangular array, or circle.	2, 3, 9, 10								
Given a number up to 20, count out that many objects.	9, 10, 12								
Compare numbers.									
Compare the number of objects in two groups using matching or counting.	2, 3								
Compare two numbers between 1 and 10.	2, 3								

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
<b>Operations and Algebraic Thinki</b>	ng					
Understand addition.						
Represent addition using a range of models.	5, 6, 7					
Represent subtraction using a range of models.	5, 6, 7					
Add within 10 using objects and drawings	5, 6, 7					
Subtract within 10 using objects and drawings	5, 6, 7					
Solve addition problems within 10.	5, 6, 7					
Solve subtraction problems within 10.	5, 6, 7					
Decompose numbers up to 10 in multiple ways.	5, 6, 7					
Make a 10 using objects and drawings	5, 6, 7					
Fluently add within 5	5, 6, 7					
Fluently subtraction within 5	5, 6, 7					
Represent and solve problems involvin	g addition a	nd subtracti	on.			
Solve addition problems within 20.		4, 7, 8, 10				
Solve subtraction problems within 20.		4, 7, 8, 10				
Solve addition problems within 20 with 3 addends.		4, 7, 8, 10				
Apply properties of operations and the	relate addit	ion and sub	traction.			
Use properties of operations to add.		4, 5				
Understand subtraction as an unknown addend problem.		4, 5				
Fluently add and subtract.						
Relate counting to addition		4, 5				
Relate counting to subtraction		4, 5				
Add within 20 using different strategies		4, 5				
Subtract within 20 using different strategies		4, 5				
Fluently add within 10.		4, 5				
Fluently subtract within 10.		4, 5				

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	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units			
Fluently add within 20.			5, 6						
Fluently subtract within 20.			5, 6						
Work with addition and subtraction equations.									
Understand the meaning of the equal sign.		4, 5							
Determine whether an addition equation is true.		4, 5							
Determine whether a subtraction equation is true.		4, 5							
Determine the unknown in an addition equation.		4, 5							
Determine the unknown in a subtraction equation.		4, 5							
Represent and solve problems involving addition and subtraction.									
Add within 100 to solve one-step problems.			3, 6, 10						
Subtract within 100 to solve one-step problems.			3, 6, 10						
Add within 100 to solve two-step problems.			3, 6, 10						
Subtract within 100 to solve two-step problems.			3, 6, 10						
Work with equal groups of objects to g	ain foundati	ions for mult	iplication.						
Determine whether a group of objects has an even or odd number of objects.			2						
Use addition to find the total number of objects arranged in a rectangular array.			2						
Represent and solve problems involvin	g multiplica	tion and div	ision.						
Understand multiplication as the product of the number of equal groups of objects.				3, 4, 5, 11					
Understand division as the partitioning of a group of objects into smaller equal groups.				3, 4, 5, 11					
Multiply within 100 to solve problems.				3, 4, 5, 11					
Divide within 100 to solve problems.				3, 4, 5, 11					

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units				
Determine the unknown in a multiplication equation.				3, 4, 5, 11						
Determine the unknown in a division equation.				3, 4, 5, 11						
Understand properties of multiplication and the relationship between multiplication and division.										
Use properties of operations to multiply.				3, 5, 9, 10						
Understand division as an unknown- factor problem.				3, 5, 9, 10						
Multiply and divide within 100.										
Fluently multiply within 100.				4, 5, 9						
Fluently divide within 100.				4, 5, 9						
Solve problems involving the four open	rations, and	identify and	l explain pat	terns in arith	nmetic					
Solve two-step problems using four operations.				2, 4, 10						
Represent the unknown in an equation with a letter.				2, 4, 10	3, 4, 6, 7, 13					
Assess the reasonableness of answer using estimation strategies.				2, 4, 10	3, 4, 6, 7, 13					
Identify arithmetic patterns				2, 4, 10						
Explain arithmetic patterns using properties of operations.				2, 4, 10						
Use the four operations with whole nu	mbers to so	lve problem	S.							
Interpret multiplication as a comparison.					3, 4, 6, 7, 13					
Solve problems involving multiplicative comparison.					3, 4, 6, 7, 13					
Distinguish multiplicative comparison from additive comparison.					3, 4, 6, 7, 13					
Solve multistep problems with whole numbers using four operations.					3, 4, 6, 7, 13					
Gain familiarity with factors and multip	oles									
Find all factor pars for a whole number up to 100.					5					
Understand that a whole number is a multiple of each of its factors.					5					
Determine whether a given number is prime or composite.					5					

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Generate and analyze patterns.						
Generate a number pattern that follows a give rule.					5, 8	
Generate a shape pattern that follows a give rule.					5, 8	
Identify apparent features of a pattern that are not explicit in the rule.					5, 8	
Write and interpret numerical expression	ons.	_				
Use parentheses, brackets, or braces in numerical expressions.						14
Evaluate expressions with parentheses, brackets or braces.						14
Analyze patterns and relationships.						
General two numerical patterns using two given rules.						14
Identify apparent relationships between corresponding terms.						14
Form ordered pairs from the two patterns.						14
Graph ordered pairs on a coordinate plan.						14

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Number and Operations in Base	Ten					
Work with numbers 11–19 to gain found	lations for p	lace value.				
Compose numbers from 11 to 19.	10					
Decompose numbers from 11 to 19.	10					
Understand that teen numbers are composed of ten ones and some more ones.	10					
Extend the counting sequence.						
Count to 120 starting at any number less than 120.		2				
Read and write numerals.		2				
Represent a number of objects with a written numeral.		2				
Understand place value.						
Count within 1000.			2, 4			
Skip count by 5, 10, and 100.			2, 4			
Understand that the 2 digits in a 2-dgit number represent some tens and some ones.		3				
Understand that the 3 digits in a 3-dgit number represent some hundreds, tens and ones.			2, 4			
Understand the structure of base-ten place value system.					2, 6, 7	3, 8
Use whole number exponents to denote powers of 10.						3, 8
Explain patterns in the number of zeros of a product when multiplying a number by a power of 10.						3, 8
Explain patterns in the placement of the decimal points when a decimal is multiplied or divided by a power of 10.						3, 8
Compare Numbers						
Compare two 2-digit numbers based on place value.		3				
Compare two 3-digit numbers based on place value.			2, 4			

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units			
Compare two multi-digit whole numbers.					2, 6, 7				
Compare two decimals to thousandths.						3, 8			
Round Numbers				1	1				
Round whole numbers to nearest 10 or 100.				2, 10					
Round multi-digit whole numbers to any place.					2, 6, 7				
Round decimals to any place.						3, 8			
Use place value understanding and properties of operations to perform multi-digit arithmetic.									
Mentally find 10 more or 10 less than a given number.		9, 11							
Mentally add or subtract 10 or 100 to a given number.			5, 6, 9, 10						
Add within 100 using a range of strategies.		9, 11							
Add within 1000 using a range of strategies.			5, 6, 9, 10						
Fluently add within 1000.				2, 10					
Fluently add multi-digit whole numbers using the standard algorithm.					3, 6, 7				
Subtract multiples of 10 from numbers up to 100.		9, 11							
Subtract within 1000 using a range of strategies.			5, 6, 9, 10						
Fluently subtract within 1000.				2, 10					
Fluently subtract multi-digit whole numbers using the standard algorithm.					3, 6, 7				
Explain addition and subtraction strategies using place value and properties of operations.			5, 6, 9, 10						
Multiply 1-digit number by multiples of 10				2, 10					
Multiply a whole number of up to 4 digits by a 1-digit whole number.					3, 6, 7				
Multiply two 2-digit numbers.					3, 6, 7				
Fluently multiply multi-digit whole numbers using the standard algorithm.						4, 5, 6, 7, 8			

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Find whole number quotients and remainders with up to 4-digit dividends and one-digit divisors.					3, 6, 7	
Find whole number quotients and remainders with up to 4-digit dividends and 2-digit divisors						4, 5, 6, 7, 8
Understand the place value system.						
Read and write multi-digit whole numbers.					2, 6, 7	
Read and write decimals to thousandths.						3, 8
Perform operations with decimals to hu	indredths.					
Fluently multiply multi-digit whole numbers using the standard algorithm.						4, 5, 6, 7, 8
Add, subtract, multiply, and divide decimals to hundredths						4, 5, 6, 7, 8

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Number and Operations—Fracti	ons					
Develop understanding of fractions as	numbers.					
Understand what a fraction is.				7, 8		
Represent fractions on the number line.				7, 8		
Relate whole numbers and fractions.				7, 8		
Fraction equivalence						
Explain equivalence of fractions.				7, 8		
Relate fraction equivalence to size.				7, 8		
Relate fraction equivalence to the number line.				7, 8		
Generate equivalent fractions.				7, 8	8	
Explain fraction equivalence.					8	
Express fractions with denominator 10 as equivalent fractions with denominator 100.					12	
Compare fractions						
Compare fractions with the same denominator by reasoning about their size.				7, 8		
Compare fractions with the same numerator by reasoning about their size.				7, 8		
Compare fractions with different numerators.					8	
Compare fraction with different denominators.					8	
<b>Operations with Fractions</b>						
Add fractions with like denominators.					9, 10, 11	
Add mixed numbers with like denominators.					9, 10, 11	
Subtract fractions with like denominators.					9, 10, 11	
Subtract mixed numbers with like denominators.					9, 10, 11	
Solve problems involving addition and subtraction of fractions.					9, 10, 11	

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Add fractions with unlike denominators.						9
Subtract fractions with unlike denominators.						9
Solve problems involving addition of fractions with unlike denominators.						9
Solve problem involving subtraction of fractions with unlike denominators.						9
Multiply a fraction by a whole number.					9, 10, 11	
Multiply fractions.						10, 11
Interpret multiplication as scaling.						10, 11
Solve problems involving multiplication of fractions.					9, 10, 11	10, 11
Solve problems involving division of whole numbers with quotients that are fractions.						10, 11
Divide fractions by whole numbers and whole numbers by fractions.						10, 11
Understand decimal notation for fraction	ons and com	pare decim	al fractions.			
Add two fractions with denominators 10 and 100.					12	
Write decimal fractions using decimal notation.					12	
Compare two decimals to hundredths by reasoning about their size.					12	

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units				
Measurement										
Describe and compare measurable attributes.										
Describe measurable attributes of objects, such as length or weight.	14									
Compare two objects for the same measurable attribute.	14									
Measure and estimate lengths										
Order three objects by length.		12								
Compare the length of two objects indirectly by comparing to the length of a third object.		12								
Measure the length of an object using an appropriate tool.			7							
Measure the length of an object using two different units.			7							
Estimate lengths of objects.			7							
Compare the lengths of two objects.			7							
Relate addition and subtraction to leng	th.									
Use addition within 100 to solve problems involving length.			7, 9							
Use subtraction within 100 to solve problems involving length.			7, 9							
Represent whole numbers as lengths on a number line.			7, 9							
Show sums and differences within 100 on a number line			7, 9							
Solve problems involving measuremen	t and conve	rsion of me	asurements							
Know relative sizes of measurement within one system of measurement.					13					
Express measurements in a larger unit in terms of a smaller unit.					13					
Record measurement equivalents in a two-column table.					13					
Solve problems involving distances, intervals of time, liquid volumes, masses of objects, and money.					13					
Represent measurement quantities using diagrams, such as number line diagrams.					13					

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units		
Convert like measurement within a giv	en measure	ment systen	n.					
Convert among different-sized standard measurement within a given system.						12		
Solve multi-step problems involving conversions.						12		
Work with time and money.								
Tell and write time in hours using analog and digital clocks.		12						
Tell and write time in half-hours using analog and digital clocks.		12						
Tell and write time to the nearest five minutes on analog and digital clocks.			8					
Tell and write time to the nearest minute.				12				
Measure time interval in minutes				12				
Solve problems involving addition of time intervals in minutes				12				
Solve problems involving subtraction of time intervals in minutes				12				
Solve problems involving bills and coins.			8					
Solve problems involving measurement	t and estima	tion of liqui	d volumes a	nd masses o	of objects.			
Measure liquid volume and masses of objects.				12				
Estimate liquid volume and masses of objects.				12				
Solve one-step problems involving liquid volumes.				12				
Solve one-step problems involving masses.				12				
Geometric measurement: understand concepts of area.								
Understand area as an attribute of plane figures.				6				
Understand concepts of area measurement.				6				
Measure the area of a rectangle by counting tiles.				6				

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Unit <u>s</u>	Grade 4 Unit <u>s</u>	Grade 5 Unit <u>s</u>
Use multiplication to determine the area of a rectangle.				6		
Use area models to represent the distributive property.				6		
Find the area of rectilinear figures by decomposing them into rectangles and adding the areas of the rectangles.				6		
Solve problems involving the area of rectilinear figures.				6		
Apply the area formula for rectangles to solve problems.					13	
Geometric measurement: understand p	perimeter					
Find the perimeter of polygons given side lengths.				11		
Determine an unknown side length given the perimeter and other side lengths.				11		
Show rectangles with the same perimeter and different areas.				11		
Show rectangles with the same area and different perimeters.				11		
Solve problems involving perimeters of polygons.				11		
Apply the perimeter formula for rectangles to solve problems.					13	
Geometric measurement: understand o	concepts of	angle and r	neasure ang	les.		
Understand that angles are geometric shapes.					14	
Understand concepts of angle measurement.					14	
Measure angles in whole-number degrees using a protractor.					14	
Sketch angles of specified measure.					14	
Understand angle measure as additive.					14	
Solve addition problems to find unknown angles.					14	
Solve subtraction problems to find unknown angles.					14	

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units		
Geometric measurement: understand concepts of volume.								
Understand volume as an attribute of 3-dimensional figures.						2		
Understand concepts of volume measurement						2		
Measure volume by counting cubes.						2		
Find the volume of a right rectangular prism by multiplying the edge lengths.						2		
Represent three-fold whole number products as volumes to show the associative property.						2		
Use the volume formula to determine volume.						2		
Understand that volume is additive.						2		
Find volumes of composite 3-dimensional figures						2		
Solve problems involving volume.						2		

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Data						
Classify objects and count the number	of objects i	n categories	i.			
Classify object into given categories	4					
Count the number of objects in each category.	4					
Represent and interpret data.						
Organize, represent, and interpret data with up to three categories.		12				
Analyze data by determining total number of data points, the number in each category.		12				
Compare the number of data points in different categories.		12				
Generate measurement data of lengths of object.			11	12		
Make a line plot to show measurement data			11			
Make a line plot with fractional intervals to display measurement data gathered.				12	13	12
Solve problems involving addition and subtraction of fractions using information presented in line plots					13	
Solve problems involving information presented in line plots with fractional values.						12
Draw a picture graph to represent a data set.			11			
Draw a bar graph to represent a data set.			11			
Solve problems about the data presented in a bar graph.			11			
Draw a scaled picture graph to represent a data set.				12		
Draw a scaled bar graph to represent a data set.				12		
Solve one- and two-step problems using information presented in scaled bar graphs.				12		

	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Geometry						
Identify and describe shapes.						
Describe shapes in the environment.	8, 11					
Describe position of objects relative to other objects.	8, 11					
Recognize and name shapes with different sizes and orientations.	8, 11					
Understand that 2-dimensional figures are flat.	8, 11					
Understand that 3-dimensional figures are solid.	8, 11					
Analyze, compare, create, and compos	e shapes.					
Analyze and compare 2-dimensional figures.	13					
Analyze and compare 3-dimensional figures.	13					
Build and draw shapes that can be found in the world.	13					
Compose simple shapes to form other shapes.	13					
Reason with shapes and their attribute	s.					
Distinguish between defining and non-defining attributes.		6, 13				
Build or draw shapes with given defining attributes.		6, 13				
Compose 2-dimensional and 3-dimensional figures.		6, 13				
Compose new shapes from composite shapes.		6, 13				
Recognize and draw 2-dimensional and 3-dimensional figures with specified attributes.			12			
Identify triangles, quadrilaterals, pentagons, hexagon, and cubes.			12			
Understand that shapes in different categories may share attributes.				7, 13		
Understand that shared attributes of shapes can define a larger category.				7, 13		

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	Grade K Units	Grade 1 Units	Grade 2 Units	Grade 3 Units	Grade 4 Units	Grade 5 Units
Recognize rhombuses, rectangles, and squares as examples of quadrilaterals.				7, 13		
Classify two-dimensional figures in a hierarchy based on properties.						13
Use a Venn diagram to organize 2-dimensional figures based on attributes.						13
Partition shapes into equal parts.						
Partition circles and rectangles into two, three, or four equal parts.		6, 13	12			
Understand that decomposing shapes into more equal parts creates smaller parts.		6, 13				
Partition a rectangle into rows and columns of the same-size squares.			12			
Recognize that equal parts of identical wholes do not always have the same shape.			12			
Partition shapes into parts with equal areas.				7, 13		
Express the area of each equal part of a shape as a fraction of the whole.				7, 13		
Draw and identify lines and angles and	classify sha	apes by pro	perties of th	eir lines and	angles.	
Draw and identify points, lines, line segments, rays, and angles.					14	
Draw and identify parallel and perpendicular lines					14	
Draw and identify right, acute, and obtuse angles.					14	
Use angle measure to classify figures					14	
Identify figures with line symmetry.					14	
Draw lines of symmetry.					14	
Understand the coordinate system.						
Understand a coordinate system						13
Graph points on the first quadrant of the coordinate plane.						13
Interpret coordinate values of points in the first quadrant of the coordinate plane.						13