

## Scope and Sequence for *Primary Mathematics, U.S. Edition*

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The check mark indicates where the topic is first introduced or specifically addressed.

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
<b>Whole Numbers</b>												
Understand and use ordinal numbers to describe position.	✓											
Count objects in a set, read and write numerals to 10.	✓											
Compare two or more sets of objects up to 10 and identify which set is equal to, more than, or less than the other.	✓											
Compare two sets of objects up to 10 and determine how many more or less are in one set than the other.	✓											
Count and identify 1 more than or 1 less than a number within 10.	✓											
Count and identify 1 more than or 1 less than a number within 30.	✓											
Understand number order and know that larger numbers describe sets with more objects in them than smaller numbers.	✓											
Count, read, and write whole numbers to 20.	✓											
Compare numbers within 20.	✓	✓										
Use place-value models to represent numbers to 100.		✓										
Read, write in words, standard, and expanded notation, and identify place values of digits for numbers within 100.		✓										
Count and identify 1 more than, 1 less than, 10 more than, 10 less than a number within 100.		✓										
Compare numbers within 100 and use the symbols $<$ , $+$ , $>$ .			✓									
Make reasonable estimates when comparing numbers and sets of objects within 100.												
Describe and extend regular number patterns within 100, including counting by 2's and 20's.		✓										
Use place-value models to represent numbers to 1000.			✓									
Read, write in words, standard, and expanded notation, identify place values of digits, and compare and order numbers within 1000.			✓									

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Describe and extend regular number patterns within 1000.			✓									
Compare numbers within 1000 and use the symbols $<$ , $+$ , $>$ .			✓									
Use place-value models to represent numbers to 10,000.					✓							
Read, write in words, standard, and expanded notation, identify place values of digits, and compare and order numbers within 10,000.					✓							
Count on and back in steps of 1, 10, 100, and 1000 and complete or extend regular number patterns within 10,000.					✓							
Round numbers within 100,000 to the nearest 10 or 100							✓					
Round numbers within 10,000 to the nearest 10, 100, or 1000.									✓			
Use place-value models to represent numbers to 100,000.							✓					
Read, write in words, standard, and expanded notation, identify place values of digits, and compare and order numbers within 100,000.							✓					
Complete or extend regular number patterns for numbers within 100,000.							✓					
Use place-value models to represent numbers to 1,000,000.									✓			
<b>Addition and Subtraction of Whole Numbers</b>												
Understand number bonds and part-whole concept.	✓											
Understand the meaning of addition (missing whole, putting together, counting on, and simple addition stories).	✓		✓									
Understand the meaning of subtraction (missing part, taking away, counting back, and simple subtraction stories).	✓		✓									
Add/Subtract numbers within 20.	✓											
Use inverse relationship between addition and subtraction.	✓		✓	✓								
Learn addition and subtraction facts within 20.	✓											
Compare numbers by using subtraction to find the difference.		✓	✓									
Add/Subtract numbers within 100.		✓										
Count by 10's within 100.		✓										

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Find the sum of three 1-digit numbers.		✓										
Add/Subtract numbers within 1000.			✓									
Add/Subtract numbers within 10,000.					✓		✓					
Use estimation to verify the reasonableness of calculated results in addition and subtraction, check subtraction problems using addition.							✓		✓			
Determine whether an estimate is sufficient for a specific problem situation.							✓					
<b>Multiplication and Division of Whole Numbers</b>												
Use repeated addition and arrays to solve multiplication problems within 40.		✓	✓									
Use sharing and grouping to divide.		✓	✓									
Relate division to multiplication.			✓	✓	✓							
Recognize and extend regular linear patterns.		✓	✓	✓	✓							
Multiply/divide by 2's and 3's.			✓									
Learn multiplication/division facts for 2's and 3's.			✓									
Multiply/divide by 4's, 5's, and 10's.				✓								
Learn multiplication/division facts for 4's, 5's, and 10's.				✓								
Understand quotient and remainder.					✓							
Understand the properties of 0 and 1 in multiplication and division.					✓							
Multiply/Divide by 6's, 7's, 8's, and 9's.					✓							
Learn multiplication/division facts for 6's, 7's, 8's, and 9's.					✓							
Multiply numbers within 1000 by a 1-digit number.					✓							
Multiply numbers within 10,000 by a 1-digit number.							✓					
Divide numbers within 1000 by a 1-digit number, including situations where there is a remainder.					✓							
Divide numbers within 10,000 by a 1-digit number, including situations where there is a remainder.							✓					
Multiply numbers within 10,000 by a 2-digit number.							✓		✓			
Divide numbers within 10,000 by a 2-digit number.									✓			
Use estimation to verify the reasonableness of calculated results in multiplication and division problems.							✓		✓			
Find the factors and common factors of whole numbers within 100.							✓		✓			

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Find multiples and common multiples of whole numbers within 100.							✓		✓			
Find the lowest common multiple of up to 3 numbers within 100.												
Use divisibility rules for 2, 3, 5, 6, 9, and 10.							✓					
Use order of operations to solve mathematical expressions with or without parentheses.									✓			
<b>Mental Math Strategies</b>												
Use the commutative and associative properties to perform mental calculations and check results.	✓	✓	✓	✓	✓		✓		✓			
Use the distributive property to perform mental calculations and check results.					✓		✓		✓			
Add 1-digit numbers involving renaming (e.g. $7 + 5$ ) by making a ten.	✓											
Subtract 1-digit numbers involving renaming (e.g. $14 - 8$ ) by subtracting from a ten.	✓											
Add/Subtract numbers within 100.		✓	✓	✓	✓							
Add/Subtract 1's, 10's, or 100's to numbers within 1000.			✓	✓		✓						
Subtract from 100.				✓								
Subtract from 1000.						✓						
Add/Subtract a number close to 100 (e.g. 98).				✓								
Add and subtract money in compound units (dollars and cents) when the cents are multiples of 5 or close to \$1.00.				✓	✓							
Add/Subtract measurements in compound units.						✓						
Add/Subtract tenths, hundredths, or thousandths to or from decimal numbers.								✓				
Multiply and divide tens, hundreds, and thousands by a 1-digit number.					✓							
Multiply by 99 or by 25.												
Multiply 10's by 10's or 100's.							✓					
<b>Fractions</b>												
Recognize and name halves and fourths.		✓		✓								
Recognize, write, name, and illustrate fractions of a whole (denominators 1-12).				✓								
Find the fraction with the same denominator to make a whole with another fraction.				✓								
Compare and order unit fractions.				✓								
Compare and order fractions with the same denominator or with the same numerator.						✓						

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Find equivalent fractions and simplest form of a fraction.						✓						
Compare and order fractions with different denominators.						✓						
Recognize and name the fraction of a set.						✓						
Find the value given the fraction of a set, using objects or drawings.						✓						
Find the fraction of a set where the answer is a whole number.						✓	✓					
Find the fraction of a set where the answer is a whole number or a mixed number.							✓		✓			✓
Find coin amounts as a fraction of a dollar.								✓				
Find fraction of a set for measurements (e.g. 10 minutes as a fraction of one hour).							✓		✓			
Add/Subtract like fractions.							✓					
Add/Subtract related fractions.							✓					
Add/Subtract unlike fractions.									✓			
Understand mixed numbers and improper fractions, convert between them, locate them on a number line.							✓					
Relate division to fractions.									✓			
Add/subtract mixed numbers.									✓			
Multiply a fraction by a whole number.							✓		✓			
Multiply a fraction by a fraction.									✓			
Divide a fraction by a whole number.									✓			✓
Divide a whole number or a fraction by a fraction.												✓
Apply order of operations with or without parentheses to problems involving fractions.												✓
<b>Money</b>												
Identify and know the value of coins and use the cent symbol.		✓										
Identify and know the value of bills and use the dollar symbol.		✓										
Count combinations of coins.		✓										
Count combinations of bills.		✓										
Count combinations of bills and coins to \$10.00.				✓								
Use decimal notation for money.				✓								
Use decimal notation to add and subtract money within \$10.00.				✓								

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Use decimal notation to add and subtract money within \$100.00.					✓							
<b>Decimals</b>												
Understand tenths, hundredths, thousandths, locate decimal numbers on a number line, compare decimal numbers.								✓		✓		
Convert a decimal to a fraction and simplify.								✓		✓		
Convert a fraction to a decimal number (denominators are a factor of 10, 100, or 1000).								✓		✓		
Compare and order decimal numbers of up to 3 decimal places and fractions.								✓		✓		
Round decimal numbers of up to 2 decimal places to the nearest whole number or to 1-decimal place.								✓				
Round decimal numbers up to 3 decimal places to the nearest whole number, to 1-decimal place, or to 2-decimal places.										✓		
Add/Subtract decimal numbers of up to 2 decimal places.								✓				
Add/Subtract decimal numbers of up to 3 decimal places.										✓		
Multiply/Divide decimal numbers of up to 2 decimal places by a whole number.								✓		✓		
Find the quotient of a division problem correct to 1 decimal place.								✓				
Find the quotient of a division problem correct to 2-decimal places.										✓		
Convert fractions to decimals correct to 2-decimal places.										✓		
Multiply/Divide decimal number by tens, hundreds, or thousands.										✓		
Multiply/divide a decimal number by a 2-digit whole number.										✓		
Use estimation to verify the reasonableness of calculated results in problems involving decimal numbers.								✓		✓		
<b>Time</b>												
Relate time to events.		✓										
Tell time to the half-hour (analog clock face).		✓										
Tell time to the nearest 5-minute mark (analog clock face).				✓								
Tell time to the minute (analog clock face).						✓						

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Estimate reasonable time intervals.												
Find the duration of time intervals.				✓		✓						
Find starting or ending times, given a time and the interval.				✓		✓						
Know relationships of time (years, months, days, weeks, hours, and seconds).				✓		✓						
Convert between of units of time.						✓		✓	✓	✓		
<b>Length, Weight, Mass, and Capacity</b>												
Compare and measure length and weight by making direct comparisons with reference objects.	✓											
Compare and measure capacity by making direct comparisons with reference objects.												
Compare and measure length, and weight using nonstandard units.	✓											
Compare and measure capacity using nonstandard units.			✓									
Measure and estimate length of objects in meters and centimeters, yards, feet, and inches.			✓			✓						
Understand and estimate length in kilometers and miles.						✓						
Compare measurements made using different units.			✓									
Measure and estimate weight in kilograms, grams, pounds, and ounces.			✓			✓						
Measure and estimate capacity in liters, cups, pints, quarts, half-gallon, and gallon.				✓		✓						
Measure and estimate capacity in milliliters.						✓						
Convert units within a metric system using multiplication.						✓			✓			
Add/subtract measurements in compound units.						✓						
Multiply/divide measurements in compound units.								✓				
Convert fractional measurements to a different unit or a compound unit, within a measuring system.									✓			
Convert units involving decimals within a measuring system.										✓		
<b>Perimeter, Area, and Volume</b>												
Find the perimeter of polygons.						✓						
Find the area of shapes by covering them with unit squares or by counting squares.				✓		✓	✓					
Understand and use units of area, such as square centimeter and square inch.						✓	✓					

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Find the area, perimeter, and unknown sides of rectangles.							✓					
Find the area and perimeter of composite figures made from squares and rectangles.							✓					
Derive the formula for area of a triangle and find the area of triangles.									✓			
Count unit cubes in 2-dimensional representations of 3-dimensional solids.								✓				
Find the volume of solid figures by counting cubic units.								✓				
Understand and use units of volume, such as cubic centimeter and cubic inch.								✓		✓		
Find the volume of rectangular prisms.								✓		✓		
Find the side of a rectangular prism given the volume and two sides or area of one side.										✓		
Understand the relationship between cubic centimeters, milliliters, and liters.								✓		✓		
Solve problems involving the change in height of liquids and volume of liquids in rectangular tanks, including rate problems.										✓		
Find the volume of solids by displacement.										✓		
Solve multistep problems involving the volume of liquids and solids and displacement of liquids.												✓
Identify the radius and diameter of a circle, find one given the other.												✓
Derive the formula for circumference of a circle and find circumference when given the radius or diameter.												✓
Derive the formula for area of a circle and find area when given the radius or diameter.												✓
Find the perimeter and area of compound figures involving squares, rectangles, triangles, and half-circles or quarter circles.												✓
<b>Geometry</b>												
Identify, describe, and categorize common 2-dimensional shapes, including the faces of 3-dimensional objects.	✓			✓								
Identify common 2-dimensional shapes within compound shapes, combine shapes to form common shapes.	✓			✓								



	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Describe and classify common 3-dimensional shapes according to number and shape of faces, edges, and vertices.				✓							✓	
Describe and extend repeating patterns involving color and shapes.	✓			✓								
Describe and extend repeating patterns involving combination of shapes (compound shapes).				✓								
Identify common 3-dimensional shapes within compound shapes.						✓						
Identify attributes of triangles and quadrilaterals.								✓		✓		
Identify right angles and compare angles to right angles.						✓						
Identify acute, obtuse, and right angles and relate $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ with quarter, half, three-quarter, and whole turn.							✓					
Measure and construct angles.							✓			✓		
Identify perpendicular and parallel lines.							✓					
Name different types of triangles and quadrilaterals.								✓				
Find unknown angles in figures based on identifying vertical, adjacent, complementary, or supplementary angles.										✓		✓
Know and use angle properties of intersecting lines, triangles, parallelograms, rhombuses, and trapezoids to solve problems involving finding unknown angles.										✓		✓
Construct triangles, parallelograms, and rhombuses with specified angles.										✓		
Visualize, describe, and draw geometric solids.											✓	
Identify nets of solids, or solids of nets.											✓	
Identify congruent figures												
Create tessellations.										✓		
Identify figures that have line symmetry.								✓				
<b>Percentage</b>												
Understand and use percent.										✓		
Find decimal and fraction equivalents for percentages.										✓		
Write fractions as percentages.										✓		
Solve problems involving percentage of a quantity.										✓	✓	
Solve problems involving part of a whole as a percentage.											✓	

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Solve problems involving one quantity as a percentage of another.											✓	
Solve percentage problems using a unitary method.											✓	
Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, percentage increase or decrease.										✓	✓	
<b>Ratio/Average/Rate/Speed</b>												
Use ratios to compare two quantities.									✓			
Use ratios to compare three quantities.									✓		✓	
Find equivalent ratios and simplify ratios									✓		✓	
Use ratios to solve problems.									✓		✓	
Relate ratios to fraction of a quantity.											✓	
Solve problems involving changing ratios.											✓	
Relate ratios to proportions.											✓	
Solve problems involving proportions.											✓	
Understand rate as the measure of one quantity per unit value of another.										✓	✓	
Solve problems involving rate.										✓		
Use a unitary approach to solve rate problems.										✓		
Solve discontinuous rate problems involving time.										✓		
Understand and use speed and average speed to solve problems.											✓	
<b>Word Problems</b>												
Make addition/subtraction stories from problem situations.	✓											
Write equations and solve simple addition/subtraction stories.	✓	✓										
Solve simple multiplication/division problems using objects and pictures.		✓										
Write equations and solve one-step word problems involving addition/subtraction.		✓	✓	✓								
Write equations and solve one-step word problems involving multiplication/division.			✓	✓								
Solve simple word problems involving fraction of a set.				✓								
Solve 2-step word problems which involve the four operations on whole numbers.					✓		✓					
Solve 2-step word problems which involve fraction of a set.							✓					

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Solve 2-step word problems which involve decimals and fractions.								✓				
Solve multi-step word problems involving all four operations on whole numbers, fractions, decimals, percentage, and ratios.									✓	✓	✓	✓
Solve multi-step word problems involving average, rate, and percentage.										✓	✓	✓
Solve multi-step word problems involving speed and average speed.											✓	✓
Solve challenging word problems.												✓
<b>Data Analysis and Probability</b>												
Sort objects and data by common attributes.	✓	✓										
Represent and compare data using picture graphs		✓										
Represent and compare data bar graphs.					✓		✓					
Represent and compare data using tally charts.												
Collect, organize, and analyze data using tables and bar graphs.							✓					
Ask and solve questions related to data representation, including finding the range and mode.				✓	✓		✓			✓		
Collect, organize, and analyze data using line graphs.										✓		
Collect, organize and display data in pie charts.												✓
Find the average of a set of data.										✓		
Find a data value given the average and the other values.										✓		
<b>Algebra</b>												
Solve problems involving numeric equations or inequalities.	✓	✓	✓		✓							
Select appropriate operational symbol to make an expression true.	✓	✓	✓		✓							
Use boxes and other symbols to stand for unknown numbers in expressions and equations.	✓		✓		✓		✓					
Represent unknown quantities with bar diagrams and solve word problems involving whole numbers using bar diagrams.					✓	✓	✓	✓	✓			✓
Use bar diagrams to solve word problems involving fractions.							✓		✓			✓
Use bar diagrams to solve word problems involving decimals.								✓		✓		✓

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B
Use bar diagrams to solve word problems involving percentage.										✓	✓	✓
Use bar diagrams to solve word problems involving ratio.									✓			✓
Solve word problems involving the functional relationship between two quantities.										✓		
Use and interpret formulas to answer questions about quantities and their relationships.							✓	✓	✓	✓		
Write and evaluate simple algebraic expressions in one variable using substitution.											✓	
Simplify algebraic expressions in one variable.											✓	
Use variables in expressions describing geometric quantities.												✓