

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
Whole Numbers												
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.									✓			
Addition and Subtraction of Whole Numbers												
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.							✓					
Multiplication and Division of Whole Numbers												
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.									✓			
Mental Math Strategies												
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.							✓					
Fractions												
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.												✓
Money												
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.					✓							
Decimals												
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.								✓		✓		
Time												
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.						✓		✓	✓	✓		
Length, Weight, Mass, and Capacity												
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.										✓		
Perimeter, Area, and Volume												
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.												✓
Geometry												
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° , 180° , 270° , and 360° 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.								✓				
Percentage												
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.										✓	✓	
Ratio/Average/Rate/Speed												
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.											✓	
Word Problems												
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-steip 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.												✓
Data Analysis and Probability												
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.										✓		
Algebra												
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.												✓

