

## Scope and Sequence for *Primary Mathematics*, third edition

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| Primary Mathematics, third edition  | 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, read, and write whole numbers to 20.   | ✓  |    |    |    |    |    |    |    |    |    |    |    |
| Compare numbers within 20.  | ✓  | ✓  |    |    |    |    |    |    |    |    |    |    |
| Use place-value models to represent numbers to 100.   |    | ✓  |    |    |    |    |    |    |    |    |    |    |
| Read, write in words and as tens plus ones, 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 to 100.   |    | ✓  |    |    |    |    |    |    |    |    |    |    |
| Describe and extend regular number patterns within 100, including counting by 2's and 10's.                   |    | ✓  |    |    |    |    |    |    |    |    |    |    |
| Use place-value models to represent numbers to 1000.  |    |    | ✓  |    |    |    |    |    |    |    |    |    |
| Read, write in words, identify place values of digits, and compare numbers within 1000.                       |    |    | ✓  |    |    |    |    |    |    |    |    |    |
| Compare numbers within 1000 and use the symbols $<$ , $+$ , $>$ .   |    |    | ✓  |    |    |    |    |    |    |    |    |    |
| Describe and extend regular number patterns within 1000.  |    |    | ✓  |    |    |    |    |    |    |    |    |    |
| Use place-value models to represent numbers to 10,000.  |    |    |    |    | ✓  |    |    |    |    |    |    |    |
| Read, write in words, identify place values of digits, and compare and order numbers within 10,000.           |    |    |    |    | ✓  |    |    |    |    |    |    |    |
| Describe and extend regular number patterns within 10,000.  |    |    |    |    | ✓  |    |    |    |    |    |    |    |
| Use place-value models to represent numbers to 100,000.   |    |    |    |    |    |    | ✓  |    |    |    |    |    |
| Read, write in words, identify place values of digits, and compare and order numbers within 100,000.          |    |    |    |    |    |    | ✓  |    |    |    |    |    |
| Complete or extend regular number patterns for numbers within 100,000.  |    |    |    |    |    |    | ✓  |    |    |    |    |    |
| Round numbers within 100,000 to the nearest 10 or 100   |    |    |    |    |    |    | ✓  |    |    |    |    |    |
| Read, write in words, identify place values of digits, and round numbers in the millions.                     |    |    |    |    |    |    |    |    | ✓  |    |    |    |
| Round numbers within 100,000 to the nearest 10, 100, or 1000.   |    |    |    |    |    |    |    |    | ✓  |    |    |    |
| <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, simple addition stories).   | ✓  |    | ✓  |    |    |    |    |    |    |    |    |    |
| Understand the meaning of subtraction (missing part, taking away, counting back, simple subtraction stories). | ✓  |    | ✓  |    |    |    |    |    |    |    |    |    |
| Add/Subtract numbers within 20  | ✓  |    |    |    |    |    |    |    |    |    |    |    |

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|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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.  |           | ✓         |           |           |           |           |           |           |           |           |           |           |
| 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.   |           |           |           |           | ✓         |           |           |           |           |           |           |           |
| 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.   |           |           |           |           | ✓         |           |           |           |           |           |           |           |
| Divide numbers within 1000 by a 1-digit number, including situations where there is a remainder.  |           |           |           |           | ✓         |           |           |           |           |           |           |           |
| Multiply numbers within 10,000 by a 1-digit number.   |           |           |           |           |           |           | ✓         |           |           |           |           |           |
| 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.   |           |           |           |           |           |           |           |           | ✓         |           |           |           |
| Multiply/divide numbers within 1,000,000 by tens, hundreds, or thousands.   |           |           |           |           |           |           |           |           | ✓         |           |           |           |
| 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.  |           |           |           |           |           |           | ✓         |           | ✓         |           |           |           |

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|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Find multiples and common multiples of whole 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 commutative, distributive, and/or associative properties 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.   |           |           |           |           | ✓         |           |           |           |           |           |           |           |
| <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.                                  |           |           |           |           |           | ✓         |           |           |           |           |           |           |
| 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 fraction of a set.  |           |           |           |           |           |           | ✓         |           |           |           |           |           |
| 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.   |           |           |           |           |           |           |           |           | ✓         |           |           |           |

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|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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.  |           |           |           |           |           |           |           |           | ✓         |           |           | ✓         |
| <b>Money</b>  |           |           |           |           |           |           |           |           |           |           |           |           |
| Identify and know the value of coins and bills.   |           | ✓         |           |           |           |           |           |           |           |           |           |           |
| Use the dollar and cent symbols for money.  |           | ✓         |           | ✓         |           |           |           |           |           |           |           |           |
| Count combinations of bills or coins.   |           | ✓         |           |           |           |           |           |           |           |           |           |           |
| 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.  |           |           |           | ✓         |           |           |           |           |           |           |           |           |
| Use decimal notation to add and subtract money within \$100.00.   |           |           |           |           |           | ✓         |           |           |           |           |           |           |
| Multiply and divide money amounts in decimal notation.  |           |           |           |           |           |           |           | ✓         |           |           |           |           |
| <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.   |           |           |           |           |           |           |           |           |           | ✓         |           |           |

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|--|----|----|----|----|----|----|----|----|----|----|----|----|
| Use estimation to verify the reasonableness of calculated results in problems involving decimal numbers. |    |    |    |    |    |    |    | ✓  |    | ✓  |    |    |
| <b>Time</b>  |    |    |    |    |    |    |    |    |    |    |    |    |
| Tell time to the half-hour (analog clock face).  |    | ✓  |    |    |    |    |    |    |    |    |    |    |
| Relate time to events.   |    | ✓  |    |    |    |    |    |    |    |    |    |    |
| Tell time to the nearest 5-minute mark (analog clock face).  |    |    |    | ✓  |    |    |    |    |    |    |    |    |
| Tell time to the minute (analog clock face).   |    |    |    |    |    | ✓  |    |    |    |    |    |    |
| 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, seconds).                                 |    |    |    |    |    | ✓  |    |    |    |    |    |    |
| Convert between units of time.   |    |    |    |    |    | ✓  |    | ✓  | ✓  | ✓  |    |    |
| <b>Length, Weight, Mass, and Capacity</b>  |    |    |    |    |    |    |    |    |    |    |    |    |
| Compare and measure length, weight, and capacity using nonstandard units.                                | ✓  |    |    |    |    |    |    |    |    |    |    |    |
| Understand and estimate length in kilometers and miles.  |    |    |    |    |    | ✓  |    |    |    |    |    |    |
| Measure and estimate weight in kilograms, grams, pounds, and ounces.                                     |    |    | ✓  |    |    | ✓  |    |    |    |    |    |    |
| Measure and estimate capacity in milliliters.  |    |    |    |    |    | ✓  |    |    |    |    |    |    |
| Convert units within 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.                                  |    |    |    |    |    |    |    |    | ✓  |    |    |    |
| Convert decimal units 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.   |    |    |    |    |    | ✓  | ✓  |    |    |    |    |    |
| 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.  |    |    |    |    |    |    |    | ✓  |    | ✓  |    |    |
| Find the volume of rectangular prisms.   |    |    |    |    |    |    |    | ✓  |    | ✓  |    |    |

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|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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.  |           |           |           |           |           |           |           |           |           |           |           | ✓         |
| 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.  | ✓         |           |           | ✓         |           |           |           |           |           |           |           |           |
| Describe and classify common 3-dimensional shapes according to number and shape of faces and edges.   |           |           |           | ✓         |           |           | ✓         |           |           |           |           |           |
| Describe and extend repeating patterns involving color and shapes.  | ✓         |           |           | ✓         |           |           |           |           |           |           |           |           |
| Describe and extend repeating patterns involving combination of shapes (compound shapes).   |           |           |           | ✓         |           |           |           |           |           |           |           |           |
| Identify right angles and compare angles to right angles, find right angles in polygons.  |           |           |           |           |           | ✓         |           |           |           |           |           |           |
| 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 and identify different types of triangles and quadrilaterals based on angle and side properties  |           |           |           |           |           |           |           | ✓         |           | ✓         |           |           |
| Know and use angle properties of intersecting lines to solve problems involving finding unknown angles.   |           |           |           |           |           |           |           |           | ✓         |           |           | ✓         |
| Know and use angle properties of triangles, parallelograms, rhombuses, and trapezoids to solve problems involving finding unknown angles.                       |           |           |           |           |           |           |           |           |           | ✓         |           | ✓         |

| <b>Primary Mathematics, third edition</b>   | <b>1A</b> | <b>1B</b> | <b>2A</b> | <b>2B</b> | <b>3A</b> | <b>3B</b> | <b>4A</b> | <b>4B</b> | <b>5A</b> | <b>5B</b> | <b>6A</b> | <b>6B</b> |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Construct triangles, parallelograms, and rhombuses with specified angles.                     |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| Identify nets of solids, or solids of nets.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Create tessellations with congruent figures.  |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| Identify figures that have line symmetry.   |           |           |           |           |           |           |           | ✓         |           |           |           |           |
| Visualize, describe, and draw geometric solids.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| <b>Data Analysis and Probability</b>  |           |           |           |           |           |           |           |           |           |           |           |           |
| Sort objects and data by common attributes.   | ✓         | ✓         |           |           |           |           |           |           |           |           |           |           |
| Represent and compare data using picture graphs.  |           | ✓         |           | ✓         |           |           |           |           |           |           |           |           |
| Represent and compare data using bar graphs.  |           |           |           |           | ✓         |           | ✓         |           |           |           |           |           |
| 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.  |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| Analyze data using pie charts.  |           |           |           |           |           |           |           |           |           |           |           | ✓         |
| <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.                                     |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Solve problems involving one quantity as a percentage of another.                             |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Solve percentage problems using a unitary method.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| <b>Ratio/Average/Rate/Speed</b>   |           |           |           |           |           |           |           |           |           |           |           |           |
| Understand and use ratios to solve problems.  |           |           |           |           |           |           |           |           | ✓         |           |           |           |
| Find equivalent ratios.   |           |           |           |           |           |           |           |           | ✓         |           |           |           |
| Relate ratios to fractions.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Relate ratios to proportions.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Solve problems involving changing ratios.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Find the average of a set of data.  |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| Find a data value given the average and the other values.                                     |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| Understand rates and solve problems involving rates.  |           |           |           |           |           |           |           |           |           | ✓         |           |           |
| 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.                     |           | ✓         |           |           |           |           |           |           |           |           |           |           |

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|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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.   |           |           |           |           |           |           | ✓         |           |           |           |           |           |
| 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>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 using bar diagrams.                                  |           |           |           |           | ✓         | ✓         | ✓         |           |           |           |           |           |
| Use bar diagrams to solve complex word problems involving whole numbers and fractions.                                      |           |           |           |           |           |           | ✓         | ✓         | ✓         | ✓         | ✓         | ✓         |
| Use bar diagrams to solve complex word problems.  |           |           |           |           |           |           |           | ✓         | ✓         | ✓         | ✓         | ✓         |
| Write and evaluate simple algebraic expressions in one variable using substitution.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |
| Simplify algebraic expressions in one variable.   |           |           |           |           |           |           |           |           |           |           | ✓         |           |