

Instructional Vocabulary

Grade 4 Math

Unit 1: Place Value

- **Decimal** – a number that uses place value and a decimal point to show values less than one, such as tenths and hundredths
- **Period** – a three-digit grouping of whole numbers separated by commas where each grouping consists of units, tens, and hundreds
- **Place value** – the value of a digit as determined by its location in a number, such as units, tens, hundreds, etc.

Unit 2: Addition and Subtraction with Whole Numbers and Decimals

- **Compatible Numbers** – numbers that are easy to compute mentally
- **Perimeter** – the distance around the outer edge of a figure
- **Rounding** – a type of estimation with specific rules

Unit 3: Multiplication

- **Area model** – a rectangular grid formed from square units
- **Array** – a set of items arranged in rows and columns
- **Factor** – a number multiplied by another number to find a product
- **Multiplication** – one of the four basic operations, where in the multiplication statement $a \times b = c$, a is the multiplicand, b is the multiplier, and c is the product
- **Partial product** – computed by multiplying the value of each digit in one factor by the value of each digit in the other factor
- **Product** – the solution to a multiplication problem

Unit 4: Division

- **Division** – one of the four basic operations of arithmetic, where in the division statement $a \div b = c$, a is the dividend, b the divisor, and c is the quotient
- **Quotient** – the solution to a division problem

Unit 5: All Operations

- **Combination** – a selection of items in which order does not matter
- **Data** – numbers or information that is collected from a survey
- **Fundamental Counting Principle** – an algebraic method to determine the number of all possible combinations in a sample space by multiplying the number of ways each event can occur
- **Multi-step problem** – a problem that requires two or more steps and/or operations to solve
- **Problem-solving model** – a flexible framework to think about the processes involved in mathematics (e.g., Polya's stages: understanding the problem, making a plan, carrying out the plan, and looking back, etc.)
- **Problem-solving strategy** – a plan or strategy to solve word problems (e.g., acting it out, drawing a picture or graph, using logical reasoning, looking for a pattern, using a process of elimination, creating an organized

chart or list, solving a simpler but related problem, using trial and error (systematic guessing and checking), working backwards, etc.)

- **Sample space** – the set of all possible combinations
- **Tree diagram** – a diagram used to organize combinations (in levels by event)

Unit 6: Fractions

- **Equivalent fractions** – fractions that have the same value
- **Fraction** – a number in the form $\frac{a}{b}$ or a/b where a and b are whole numbers and b is not zero. A fraction can be used to name part of an object, part of a set of objects, to compare two quantities, or to represent division
- **Improper fraction** – a fraction with a numerator that is greater than or equal to the denominator and whose value is greater than or equal to one
- **Mixed number** – a number that has a whole number part and a fractional part

Unit 7: Measurement

- **Customary measurement** – the system of measurement used in the United States; usually written with fractions or mixed numbers
- **Degrees Fahrenheit** – the customary unit of measure for temperature
- **Degrees Celsius** – the metric unit of measure for temperature
- **Metric measurement** – the system of international measure (SI) based on the decimal systems and base units of tens
- **Standard unit** – a unit of measure that has been defined by a recognized authority, such as a government or standards organization. For example, *inches, meters, seconds, liters, pounds, and grams* are all standard units

Unit 8: Geometry

- **Attribute** – a characteristic that helps define a figure
- **Congruent** – two figures that are exactly the same size and same shape
- **Intersecting lines** – lines that meet or cross each other
- **Line of symmetry** – an imaginary line on a two-dimensional figure that, when folded, produces two halves that match identically
- **One-dimensional figure** – a figure, such as a line or the side of a figure, that has one basic unit of measurement – length
- **Parallel lines** – lines that lie in the same plane, never intersect, and are the same distance apart
- **Perpendicular lines** – lines that intersect at right angles to each other to form square corners
- **Reflection** – a flip of a figure over a line to make a mirror image of that figure
- **Rotation** – a turn of a figure that moves the figure around a point
- **Three-dimensional figure** – a figure that has three basic units of measurement (usually length, width, and height)
- **Transformation** – a change in position of a geometric figure
- **Translation** – a slide that moves a figure horizontally, vertically, or diagonally from one location to another along a straight line
- **Two-dimensional figure** – a figure that has two basic units of measurement (usually length and width)

Unit 9: Tying it all Up

- **Problem-solving model** – a flexible framework to think about the processes involved in mathematics (e.g., Polya's stages: understanding the problem, making a plan, carrying out the plan, and looking back, etc.)
- **Problem-solving strategy** – a plan or strategy to solve word problems (e.g., acting it out, drawing a picture or graph, using logical reasoning, looking for a pattern, using a process of elimination, creating an organized chart or list, solving a simpler but related problem, using trial and error (systematic guessing and checking), working backwards, etc.)

Unit 10: Fraction Connections

- **Equivalent fractions** – fractions that represent the same value
- **Fraction** – a number in the form or a/b , where a and b are whole numbers, and b is not zero. A fraction can be used to name part of an object, part of a set of objects, to compare two quantities, or to represent division
- **Improper fraction** – a fraction with a numerator that is greater than or equal to the denominator and whose value is equal to or greater than one
- **Mixed number** – a number that has a whole number part and a fractional part

Unit 11: Measurement Connections

- **Customary measurement** – the system of measurement used in the United States; usually written with fractions or mixed numbers
- **Metric measurement** – the system of international measure (SI) based on the decimal systems and base units of tens
- **Standard unit** – a unit of measure that has been defined by a recognized authority, such as a government or standards organization. For example, *inches, meters, seconds, liters, pounds, and grams* are all standard units