Mathematics Glossary

The terms contained in this glossary are useful in the preparation for, and delivery of, instruction and assessment on the NC Extended Content Standards in mathematics. Each term has been included for at least one of two reasons. The first being that the term is needed when providing instruction on the NC Extended Content Standards, and the second is because the term is used on the NCEXTEND1 Assessment. This glossary is meant to be all-inclusive of the terms that are used from Kindergarten through high school. Synonyms are provided for several terms, which may be helpful when defining words for students.

Term	Definition
About	close to; almost.
Above	a location; higher.
Acute angle	an angle with a measure greater than 0° and less than 90°.
Add	to combine two or more quantities to find one quantity called a total or sum.
Add fractions	to calculate the sum of two or more fractions; when fractions have a common denominator, their sum is the fraction whose numerator is the sum of their numerators and whose denominator is the common denominator (e.g., 1/5 + 4/5 = 5/5).
Addition	a mathematical operation of combining two or more numbers into a sum.
Addition sign (+)	a symbol (+) that shows that one number is to be added to another.
Additive inverse	two numbers are opposites if they are each the same distance away from zero, but on opposite sides of the number line.
After	behind; the periods of time following an event.
Afternoon	the time from noon or lunchtime to evening.

Algebra	A systematic way of expressing generality and abstraction. The systematically guided transformation of symbols.
Algebraic Equation	an equation that says two things are equal and includes one or more variables.
Algebraic Expression	a mathematical phrase that is written using one or more variables and constants, but which does not contain a relation symbol (i.e., <, >, ≤, ≥, =, and ≠) (e.g., 3y + 6).
Algebraic Thinking	using arithmetic to develop and express generalizations; identify numerical and geometric patterns to describe functional relationships
Amount	the sum, whole, or aggregate of two or more quantities.
Analog clock	a clock usually with a round face, numbers 1-12 on it, and at least two hands (a short hand pointing to the hour and a long hand pointing to the minute, and perhaps an additional hand for seconds).
Angle	a shape, formed by two lines or rays diverging from a common point (the vertex).
Answer	the value or values that make an equation, inequality, or open sentence true.
Apply	1. to use a theorem or concept to solve an algebraic, numeric, or geometric problem. 2. to carry out or use a procedure in a given situation.
Area	a measurement of the amount of space within a closed, two-dimensional shape. Area is usually measured in terms of "square units," in which one square unit is the amount of space within a square that measures one unit by one unit (for a given unit of length).
Area model	a diagram or representation to show the relative size of a fraction.
arithmetic operation	applying addition, subtraction, multiplication and division (+, −, ×, ÷) to an equation.
arithmetic patterns	an arrangement of numbers that helps students discover the patterns in increasing and decreasing numbers.
Arithmetic sequence	a sequence in which successive terms exhibit a common difference (e.g., 12, 10, 8, 6, 4…).

Array	a set of objects or numbers arranged in order, commonly in rows and columns.
Ascending order	an arrangement of numbers or objects in order from least to greatest or smallest to largest.
Associative property for addition	a mathematical property which states that the sum of three or more numbers is always the same, regardless of their grouping. This is illustrated by $a + (b + c) = (a + b) + c$; $2 + (3 + 4) = (2 + 3) + 4$.
Associative property for multiplication	a mathematical property which states that the product of three or more numbers is always the same, regardless of their grouping. This is illustrated by $a \times (b \times c) = (a \times b) \times c$; $2 \times (3 \times 4) = (2 \times 3) \times 4$.
Attend	orients to objects, people, or activity.
Attribute	a characteristic of an object. Attributes may include shape, size, number of sides, number of angles, texture, weight, density, etc.
Attribute value	a specific characteristic of an object. For example, small, medium, and large are possible values for the attribute size.
Balance scales	a device for weighing. It has a balanced beam and two pans. When the pans contain exactly the same mass the beam is in balance. You can place an object in one pan and standard weights or informal units in the other to find what the object weighs.
Bar graph	a graph that uses horizontal or vertical bars to represent numbers in a set of data.
Base ten blocks	blocks used to learn place value, addition, subtraction, multiplication, and division. Base ten blocks consist of cubes (ones place), rods (tens place), flats (hundreds place), and blocks (thousands place).
Base ten number system	a place value number system in which 10 digits, 0-9, are used to represent a number and the value of each place is 10 times the value of the place to its right; the value of any digit in the number is the product of that digit and its place value.
Before	in front of; earlier than; at an earlier time.
Below	a location; lower.

Benchmark Numbers	a number such as 5, 10, 25, 50, or 100 that can be used to help make comparisons or estimates.
Between	1. given two numbers, another number is said to be between those two numbers if it is greater than the first, but less than the second. 2. a location; middle value or object.
Big	of considerable size.
Calculate	to compute; to perform the indicated operation(s).
Capacity	the amount of space in cubic units that a three-dimensional (solid) figure occupies or contains. Units, such as cubic meters (m3), cubic inches (in.3), gallons (g), liters (L), and fluid ounces (fl. oz) are used to measure volume.
Cardinality principle	the concept that the last number counted represents the number of elements of a set.
Category (Categories)	a class or division of people or things regarded as having particular shared characteristics.
Cent	a unit of money equal to $\frac{1}{100}$ of 1 dollar.
Centimeters (cm)	a metric unit of measure for length or distance (100 cm = 1 m).
Change	1. (noun) money in the form of coins and/or dollars that is received when you purchase an item with more money than the item costs. 2. (verb) to make or become different.
Circle	a two-dimensional shape formed by a set of points that are equidistant from a fixed point called the center.
Classify	classify and sort are not the same thing- place items in pre-determined categories (e.g., heavy/light, big/small, rectangles/circles).
Clock	1. (analog) a clock usually with a round face, numbers 1-12 on it, and at least two hands (a short hand pointing to the hour and a long hand pointing to the minute, and perhaps an additional hand for seconds). 2. (digital) a clock on which the time is displayed numerically (e.g., 12:22).
Clockwise	moving in the same direction as the hands on a clock.

Coin	a flat piece of metal issued by governmental authority as money (e.g., pennies, nickels, dimes, and quarters).
Column	a set of data stacked vertically.
Combine	to join or merge to form a single unit or substance.
Common attributes	the characteristics, such as shape, size, number of sides, number of angles, weight, etc., that are shared by two or more objects.
Common difference	the difference between each number in an arithmetic sequence. For example, the sequence {3, 5, 7, 9, 11...} is made by adding 2 each time, and so has a "common difference" of 2 (i.e., there is a difference of 2 between each number).
Common ratio	the amount between each number in a geometric sequence.
Commutative property for addition	a mathematical property that states the sum of numbers is always the same, no matter how the addends are ordered. This is illustrated by $a + b = b + a$; $2 + 1 = 1 + 2$.
Commutative property for multiplication	a mathematical property that states the product of numbers is always the same, no matter how the factors are ordered. This is illustrated by $a \times b = b \times a$ (when a and b are real numbers); $4 \times 6 = 6 \times 4$.
Compare	1. to state the similarities or differences between two or more objects or figures by considering their attributes. 2. to determine if one number, quantity, or amount is greater than, less than, or equal to another number, quantity, or amount.
Compose numbers	combine quantities to make a new quantity (e.g., a set of 2 and a set of 5 when you put them together they become a set of 7 or 3 tens and 7 ones can be composed as 37).
Comprises	made up of.
Condition	the characteristic by which a shape is identified (e.g., if a shape has 4 equal side then it is a square)
Congruent	Exactly equal in size and shape.
Congruent figures	two plane or solid figures that have the same size and shape, and one can be obtained from the other by a sequence of rotations, reflections, and/or translations.

Connection	understand how mathematical ideas interconnect and build on one another to produce a coherent whole
Consecutive	following one right after the other in order (e.g., 1, 2, 3…).
Construct	build; make
Continuous amount	a quantity of something[2] that does *not* consist of distinct or individual parts (e.g., liquid).
Counting	counting must include the following five elements: a) one-to-one: there must be a one-to-one relation between counting words and objects; b) stable order: counting words must be recited in a consistent, reproducible order; c) cardinality: the last counting word spoken indicates how many objects are in the set as a whole (rather than being a property of a particular object in the set); d) abstraction: any kinds of objects can be collected together for purposes of a count; and e) order irrelevance: objects can be counted in any sequence without altering the outcome.
Create	cause (something) to happen as a result of one's actions.
Cross-Section	the shape made when a solid is cut through parallel to the base
Cube	a rectangular solid with exactly six congruent square faces.
Cubed	the product of a number multiplied by itself three times (e.g., 343 = 7^3).
Cubic units	a unit for measuring volume (e.g., cubic centimeters and cubic inches); a cube that measures one unit along each edge.
Cup	a customary unit used to measure capacity; one cup = eight ounces.
Data	information collected and used to analyze a particular concept or situation.
Data distribution	how the measurements of a set of data are clustered together, isolated from each other, or spread out.
Day	a period of twenty-four hours as a unit of time.
Decade numbers	Counting by tens on the decade, 10, 20, 30, etc

Decimal number	decimals, like fractions, are a way of writing numbers that are smaller than one whole. Decimals are represented by a symbol called a decimal point. As you move right from the decimal point, the first number is in the tenths place and the second number is in the hundredths place.
Decimal point	a period or dot separating the ones place from the tenths place in decimal numbers or separating the dollars from cents in money.
Decompose numbers	divide or separate a quantity into smaller parts (e.g., 7 can be separated into 6 and 1, 5 and 2, 3 & 4 or 56 can be decomposed as 5 tens and 6 ones).
Decrease (decreasing)	to take away or become smaller.
Defining attributes of shapes	always-present features that classify a particular object (e.g., number of sides, angles, etc.).
Demonstrate	to show how to do something; explain.
Denominator	the "bottom" number of a fraction; the number that represents the total number of parts into which one whole is divided. For example, in 3/4, the 4 is the denominator and indicates that one whole is divided into 4 parts.
Dependent events	two or more events in which the outcome of one event affects or influences the outcome of the other event(s).
Descending order	decreasing order; from greatest to least or largest to smallest.
Describe	to give details about what someone or something is like.
Determine	to find or come to a decision about by reasoning, or calculation.
Difference	the result when one number is subtracted by another number (i.e., the "answer" to a subtraction computation).
Different	not the same; unlike.
Differentiate	recognize what makes something different. Fractional part- is an equal size part of a whole object, set of objects, or array.
Digit	A digit is a single symbol used to make numerals. 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9
Digital clock	a clock on which the time is displayed numerically (e.g., 12:22).
Dime	a coin with a value of 10 cents or 1/10 of one dollar.

Direction	the line or course on which something is going.
Distance	the length between two points in space.
Distributive property	a mathematical property that states when the sum of addends is multiplied by a factor, the result is the same as multiplying each addend by the factor and adding the products together. This is illustrated by $a \times (b + c) = (a \times b) + (a \times c)$.
Divide	split into equal parts.
Division	the inverse of multiplication. An operation that involves splitting a number into equal parts.
Division sign (÷)	a symbol (÷) that shows that one number is to be divided by another.
Divisor	the number by which another number is being divided — usually singular.
Dollar	currency that is worth 100 cents.
Dot plot	a method of visually displaying a distribution of data values where each data value is shown as a dot or x mark above a number line. Also known as a dot plot.
Endpoint	a point at either end of a line segment or the beginning point of a ray.
Equal	the same amount or value (i.e., 3 x 2 and 10 − 4 are equal in value)
Equal Share	having the same quantity, measure, or value as another part.
Equal to/Equal sign (=)	a symbol (=) that means two things have the same amount, size, number, or value.
Equality	a relationship between two quantities or, more generally two mathematical expressions, asserting that the quantities have the same value, or that the expressions represent the same mathematical object
Equally Distribute	something that is split equally between people, groups, sets, or categories.
Equally likely	all events, or outcomes, have the same chance of occurring.
Equation	a mathematical sentence stating that two expressions are equal (e.g., $5 + n = 12$).
Equivalent	equal in value or amount
Equivalent expressions	two expressions (numerical or otherwise) in which one expression can be obtained from the other using the properties of operations, such as the commutative, associative and distributive properties, as well as by representing numbers in the expressions in different but equivalent forms.

Even number	1. a whole number that is a multiple of two. 2. the same number of objects in each group.
Event	a set of one or more outcomes in a probability experiment. For example, given a number cube with the numbers one through six on the faces, the rolling of an even number is an event.
Exponent	a small number written to the right and above a base number signifying how many times the base number is to be multiplied to itself.
Expression	a mathematical representation containing numbers, variables, and operation symbols; an expression does not include an equality or inequality symbol.
Extend a pattern	to use the pattern rule to decide the numbers (or shapes) that would come next in the sequence (or pattern).
Face	a plane surface of a three-dimensional figure.
Fact family	a set of facts, each of which relates the same three numbers through addition and subtraction or through multiplication and division (e.g., 3 + 4 = 7, 4 + 3 = 7, 7 − 4 = 3, 7 − 3 = 4).
Factor	the numbers that are multiplied together to get a product.
Fahrenheit (°F)	a temperature scale based on 32° as the freezing point of water and 212° as the normal boiling point of water.
Fair Share	an amount divided equally.
Few	a small number, opposite to many.
Figure	a shape that only has two dimensions (such as width and height) and no thickness.
First Quadrant	a 2-dimensional graph, Cartesian plane, includes negative and positive values of both x and y. This graph is divided into four quadrants, or sections, based on those values. The first quadrant is the upper right-hand corner of the graph, the section where both x and y are positive.
Flip	the transformation of a figure that produces the mirror image of the original figure. As a result of the transformation, the line over which the reflection occurs becomes a line of symmetry. Informally, a reflection can be thought of as a “flip” of the original figure.

Foot (ft)	a customary unit of measure for length or distance; 1 ft. = 12 in.
Formal units	all customary and metric units of measure.
Formula	a mathematical statement, equation, or rule that shows a relationship between two or more quantities.
Fourths	a whole divided into four equal parts.
Fraction	a number in the form a/b where a is called the numerator and b is called the denominator. A fraction names a part of a whole or a part of a collection.
Function	1. two sets, an input set and an output set, and a rule that assigns to each input exactly one output.[7] 2. a relationship between two sets of numbers or other mathematical objects where each member of the first set is paired with only one member of the second set. Functions can be used to understand how one quantity varies in relation to (is a function of) changes in the second quantity. For example, there is a functional relationship between the price per pound of a particular type of meat and the total amount paid for ten pounds of that type of meat.
Function rule	the rule that assigns to each input exactly one output, where one quantity determines another. For example, if you are given a table of *x*- and *y*-values, the function rule will describe how the ordered pairs are related to each other in the form of an equation [e.g., $f(x) = x + 2$].
Function table	a table used to represent the relationship between two values; a table of ordered pairs that may follow a rule that tells how the one value is related to the other value.
Gallon	a customary unit used to measure capacity; one gallon = four quarts.
Geometric Figure	any point, line, segment, ray, angle, polygon, curve, plane, surface, solid, etc.
Geometric Sequence	a sequence of numbers that follow a pattern in which there is a constant ratio (multiplying or dividing) between terms.
Geometric Shape	geometric information that still remains there even if scale, orientation, location and reflection are displaced from a particular geometrical object.

Geometry	the branch of mathematics that deals with the measurement, properties, and relationships of points, lines, angles, planes, and two- and three-dimensional figures.
Graph	a drawing or diagram showing a numerical relationship or displaying data.
Graphical Representation	using symbols such as lines, bars, pie slices, or dots to depict the data
Greater than (>)	a relationship showing that the first term or expression has a value larger than the second term or expression (e.g., $5 + 3 > 5 - 2$ and $2x - 4 < 18$).
Group	a number of individuals or objects that are assembled together or that have some unifying relationship.
Growing patterns	patterns in which the numbers increase, and the amount added changes each time in a predictable way.
Half	fifty percent of a whole; one of two equal parts.35
Half hour	a period of time lasting 30 minutes.
Halves	fifty percent of a whole; one of two equal parts.
Heavy	of great weight; difficult to lift or move.
Height	the measurement from base to top or (of a standing person) from head to foot.
Histogram	a graph that uses horizontal or vertical bars to represent numbers in a set of data.
Horizontal axis	the horizontal axis of a coordinate grid.
Hour (hr)	a unit used to measure time, 1/24 of a day; 1 hour = 60 minutes.
Hour hand	the shorter hand on an analog clock.
Hundred chart	a 10 × 10 grid representing the numbers from 1 to 100 in rows and columns of ten.
Hundreds	the numbers between 100 and 999; the place to the left of the tens place, which is 10 times 10.
Hundreds place	the place value located three places to the left of the decimal point in a number; a digit in the hundreds place has a value of 100 times the value of the digit.
Hundredths	one of 100 equal parts; two digits to the right of a decimal point.

Identify	to recognize or distinguish.
Impossible	no chance of an event happening.
Inch (in)	a customary unit for measuring length or distance; 12 inches = 1 foot; roughly equivalent to the distance from the end of one's thumb to the first joint.
Increase (increasing)	to become/becoming larger in size or quantity.
Independent events	two or more events, in which the outcome of one event does not influence or affect the outcome of the other event(s).
Inequality	a mathematical sentence that contains an inequality symbol (i.e., >, <, ≥, ≤, or ≠). It compares two quantities. The symbol > represents greater than; the symbol < represents less than; the symbol ≥ represents greater than or equal to; the symbol ≤ represents less than or equal to; and the symbol ≠ represents not equal to (the symbol ≠ is often used to express which values are not available to be used for a particular expression or equation).
Informal unit	any tangible item that can be used to measure something (e.g., paper clips, straws, pencils, cotton balls).
Input/output table	a table used to represent the relationship between two values; a table of ordered pairs that may follow a rule that tells how the one value is related to the other value.
Inside	situated within the confines of (something); within.
Interpret	to give or provide the meaning of; to explain.
Intersecting lines	two lines that cross at one point.
Interval	what is between two points or values.
Key	a table for decoding or interpreting; a notation that explains something, such as the value of each symbol or picture on a picture graph.
Label	a descriptive unit.

Length	1. the distance along a line or curve from one point to another; the distance can be measured with a ruler or tape measure. 2. the distance from one "end" to another of a two- or three-dimensional figure. For example, the length of a rectangle usually refers to the length of the longer side.
Less	smaller; fewer.
Less than (<)	a relationship showing that the first term or expression has a value smaller than the second term or expression (e.g., $2 < 3$ or $-5 < -1$).
Light	having little weight: not heavy.
Likelihood	the chance that an event will occur.
Line	an infinite set of points in opposite directions forming a straight path; it has only one dimension, length.
Line plot	a method of visually displaying a distribution of data values where each data value is shown as a dot or x mark above a number line. Also known as a dot plot.
Line segment	a line segment is a part of a line that is bounded by two distinct end points and contains every point on the line between its endpoints.
Linear equation	an equation of the form $y = mx + b$, where m and b can be any real number. When the ordered pairs (x, y) that make the equation true for specific assigned values of m and b are graphed, the result is a straight line.
Linear function	a function whose graph is a line that is not parallel to the vertical axis and has a constant rate of change. Represented by an equation in the form of $y = mx + b$; when graphed, the coordinates provided will form a straight line.
Linear function graph	the graph of a linear function that results in a straight line.
Long (longer; longest)	extending, lasting, or totaling a number of specified units; compare lengths of lines, shapes, or objects.
Long hand	the longer hand on an analog clock; the hand on an analog clock that tells the minutes.
Magnitude	the size of a mathematical object, a property which determines whether the object is larger or smaller than other objects of the same kind

Manipulatives	physical objects that can be used to help solve mathematical problems (e.g., tangrams, base ten blocks, number cubes, cards, rulers, counters, pattern blocks, cubes).
Mass	the quantity of matter in an object, often confused with weight. Mass is commonly measured by how much something weighs. But weight can change for different locations (such as on the moon) while the mass stays the same.
Match	1. (noun) a similar or complementary pair. 2. (verb) put (someone or something) together with someone or something else.
Mathematical problem	a problem that can be represented, analyzed, and solved using the methods of mathematics.
Mathematical reasoning	applying mathematical techniques, concepts, and processes, either explicitly or implicitly.
Mathematical sentence	a mathematical statement that is either an equation or an inequality. A number sentence is composed of expressions, but it is not an expression. When written, a number sentence always contains a relation symbol (e.g., =, ≤, >).
Mayer's Cognitive Processes in Problem Solving	1. Translating - converting sentence into mental representation 2. Integrating - building a mental model of the problem situation 3. Planning - devising a plan for how to solve the problem 4. Executing – carrying out the plan
Mean	a measure of center for a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.[15] For example, for the data set {3, 6, 8, 11}, the mean is 7.
Measurable attribute	an identifiable property of an object, set, or event that is subject to being measured. For example, some of the measurable attributes of a box are its length, weight, and capacity.
Measurement	comparing a unit to an object to determine the number of units[7]; the process of assigning a number to a physical property. Types of measurement include length, weight, area, volume, time, etc.
Measurement system	a collection of units of measurement and rules relating them to each other (i.e., inches/foot, centimeter/meter, minutes/hour)

Measurement unit	a standard amount or quantity. Common examples are inches (in.), feet (ft), ounces (oz), grams (g), minutes (min), hours (hr), etc.52
Meter stick	a ruler one meter long (usually marked off in centimeters and millimeters).
Mile (mi)	a customary unit of measure for length or distance; 1 mile = 5,280 feet.
Miles per hour (mph)	a unit of speed, and a ratio comparing distance (in miles) and time (in hours).
Minuends	a quantity or number from which another is to be subtracted.
Minus sign (-)	a symbol (–) that is read as “minus” or “take away” to represent subtraction.
Minute hand	the longer hand on an analog clock; the hand on an analog clock that tells the minutes.
Minutes	1. a unit used to measure time; 1 minute = 1/60 of an hour. 2. each degree can be divided into 60 equal parts, called minutes.
Missing value	a value omitted from an equation that is needed to make the equation true [e.g., $(2 \times 3) \times 5 = 2 \times (3 \times \square)$].
Model	any object, picture, or graphic that represents a mathematical concept or relationship (i.e., the tens-frame with objects can model the quantity of 1-10 and provide a framework for comparison).
Money	a medium of exchange, a measure of value, or a means of payment.
More	greater in number.
Morning	the period of time between sunrise and noon.
Multiplication	a mathematical operation of combining groups of equal amounts; repeated addition; the inverse of division. For example, 4 multiplied by 3 is equivalent to 4 + 4 + 4.
Multiplication sign (×)	a symbol (×) written between two numbers to show that one number is to be multiplied by the other.
Multiply	the processes by which a number is added to itself a specified number of times.
Negative number	the opposite of a positive number; a number to the left of zero on a horizontal number line (i.e., any number less than 0).
Next	coming immediately after the present one in order, rank, or space.
Nickel	a coin with a value of 5 cents or 1/20 of a dollar.

Night	the period of darkness in each twenty-four hours.
Non-standard unit	any tangible item that can be used to measure something (e.g., paper clips, straws, pencils, cotton balls).
Number	1. the concept of an amount, quantity, or how many items there are in a collection. 2. (cardinal numbers) count the number of objects in a set; (e.g., a triangle has three sides). 3. (ordinal numbers) indicate the position of an object in a sequence (e.g., second in a race). 4. (nominal numbers) label objects (e.g., room 1, room 2, etc.).
Number chart	a 10 × 10 grid representing the numbers from 1 to 100 in rows and columns of ten.
Number cube	a cube with a number indicated on each of the six sides.
Number line	a graph that represents the real numbers as ordered points on a line. A number line may be either horizontal (left and right) or vertical (up and down). Starting at zero, the positive numbers progress to the right (or up) and the negative numbers progress to the left (or down).
Number sense	the understanding of number size (i.e., relative magnitude), number representations, number operations, referents for quantities, and measurement used in everyday situations.
Number sentence	a mathematical statement that is either an equation or an inequality. A number sentence is composed of expressions, but it is not an expression. When written, a number sentence always contains a relation symbol (e.g., =, ≤, >).
Number sentences	a group of numbers that includes a mathematical operation -- think of addition, subtraction, multiplication, or division -- along with a less than (<), greater than (>), or an equal sign (=) (i.e., 2 + 2 = 4).
Numeral	a symbol expressing a number (1, 2, 3, etc.)
Numeration	an act or instance of or the process or result of numbering or counting
Numerator	the number above the fraction bar that indicates the number of parts of the whole in a rational number. For example, in 3/4, the 3 is the numerator.

Numeric pattern	an arrangement of numbers that repeat or that follow a specified rule.
O'clock	used to specify the hour when telling time.
Object	a material item that can be seen and touched.
Obtuse angle	an angle with a measure greater than 90° and less than 180°.
Odds	the chance that an event will occur. Probabilities can be described as likely, if the event will most probably happen; certain, if the event will definitely happen (a probability equal to 1); impossible, if the event cannot happen or (a probability equal to 0); unlikely, if there is little chance that the event will happen. A probability can also be expressed as a fraction (e.g., 3/12).
One-step problem	a word problem, equation, or inequality that can be solved in one step.
One-to-one correspondence	match groups of equally numbered items
Ones	groups of one thing.
Ones place	the place value located one place to the left of the decimal point in a number; it shows how many ones are in a number.
Operand	The quantity, size, or data that will change when a mathematical operation is applied.
Opposite	two numbers are opposites if they are each the same distance away from zero, but on opposite sides of the number line.
Order	the arrangement of people or things in relation to each other according to a particular sequence, pattern, or method.
Ordered pair	a set of two numbers named in an order that matters; represented by (x, y) such that the first number, x, represents the x-coordinate and the second number, y, represents the y-coordinate when the ordered pair is graphed on the coordinate plane; each point on the coordinate plane has a unique ordered pair associated with it.
Ordering	the process of arranging objects or numbers to show a progressive increase or decrease of an attribute.
Orientation	the relative position or direction of something.

Origin	the point at which the *x*- and *y*-axes (horizontal and vertical axes) intersect on a coordinate plane. The origin is described by the ordered pair (0, 0) and serves as a reference point so that all the points on the plane can be located by ordered pairs.
Ounce (oz)	a customary unit used to measure mass; 1 ounce = 1/16 pound; 16 ounces = 1 pound.
Outcome	the result or one of the possible events in a probability experiment. For example, when tossing a fair coin there are two possible outcomes, heads or tails.
Outside	situated on or near the exterior or external surface of something; situated or moving beyond the confines or boundaries.
Pair	two of something.
Pan Balance	an instrument that is used to weigh objects or to compare their weights.
Parallel lines/line segments	two lines that do not intersect or touch each other at any point no matter how far they are extended.
Part	a separate piece or unit of something; a piece that combines with other pieces to form the whole of something.
Part-part-whole	a concept underlying the operations of addition and subtraction. Addition involves joining two or more parts to make a total, subtraction involves finding the "missing" part.
Partition	the process of dividing shapes or quantities, usually into equal parts.
Pattern unit	the portion of a pattern that is repeated. For example, AAB is the core unit in the pattern AABAABAAB.

Patterns	1. a sequence of objects, shapes, or numbers that repeat or change in a regular manner. 2. (growing) patterns in which the numbers increase, and the amount added changes each time in a predictable way. 3. (numeric/symbolic) an arrangement of numbers that repeat or that follow a specified rule. 4. (pictorial) a pattern using symbols, shapes, designs, and pictures (e.g., ΔΔ◊◊ ΔΔ◊◊). 5. (recursive) a pattern in which each number is found from the previous number by repeating a process. 6. (repeating) a pattern that is cyclical in nature, with each cycle repeating elements in the same order. 7. (shrinking) patterns in which the numbers decrease, and the amount subtracted changes each time in a predictable way.
Penny	a coin with a value of 1 cent or 1/100 of a dollar.
Perimeter	the distance around a closed two-dimensional figure or shape. In the case of a circle, the distance around is the circumference.[63]
Perpendicular lines/line segments	the relationship between two lines which meet at a right angle (90 degrees).
Pictograph	a graph that uses pictures or symbols to show data.
Pictorial pattern	a pattern using symbols, shapes, designs, and pictures (e.g., ΔΔ◊◊ ΔΔ◊◊).
Picture graph	a graph that uses pictures or symbols to show data.
Pie chart	a graph in which the data is represented by sectors of a circle; the total of all the sectors should be 100% of the data.
Pie graph	a graph in which the data is represented by sectors of a circle; the total of all the sectors should be 100% of the data.
Pint (pt)	a customary unit used to measure capacity; two cups = one pint; two pints = one quart.

Place value	the concept that the order in which digits are written in the base-10 number system determines the value of that digit. For example, in the number 245, the digit 2 is in the hundreds place, indicating that the value of that particular 2 is actually 2 hundreds or 200.
Plot	to locate a point on a coordinate plane.
Plus sign (+)	a symbol (+) that shows that one number is to be added to another.
Point	the smallest geometric unit and a figure with no dimensions—it has no length, width, or height. A point is generally indicated with a single dot and is labeled with a single capital letter (e.g., point P). When the point appears at the end of a figure (e.g., a line segment or a ray), it is referred to as an endpoint.
Positional words	words that enhance a student's ability to follow and give directions such as, on, off, in, out.
Positive number	any number greater than zero or to the right of zero on the number line.
Possible	able to be done or achieved; able to exist.
Pound (lb)	a customary unit used to measure mass; 1 pound = 16 ounces.
Power	a small number written to the right and above a base number signifying how many times the base number is to be multiplied to itself.
Precise (Precision)	exact in measuring; accurate.
Predict	to use known information in order to make a logical guess as to a future outcome.
Prediction	a reasonable guess as to what will happen
Probability	the chance that an event will occur. Probabilities can be described as likely, if the event will most probably happen; certain, if the event will definitely happen (a probability equal to 1); impossible, if the event cannot happen or (a probability equal to 0); unlikely, if there is little chance that the event will happen. A probability can also be expressed as a fraction (e.g., 3/12).
Product	the result when one number is multiplied by one or more numbers; the answer to a multiplication computation.
Properties of geometric shapes	characteristics that are true for a geometric shape in a particular class of geometric shapes (e.g., quadrilaterals)

Properties of operations	concepts and processes that have a pattern of regularity and logical order (e.g., commutative property, associative property, distributive property)
Proportional	having parts that are the correct or appropriate size in relation to each other
Putting together	bringing two or more quantities together to make a new total.
Quantity	the amount or number of a material or immaterial thing not usually estimated by spatial measurement.
Quarter	a coin with a value of 25 cents or 1/4 of a dollar.
Quarter hour	a period of 15 minutes.
Quotient	the result of a division problem.
Rate of change	a ratio that compares change in a dependent variable (i.e., *y*-value) in relation to a change in the independent variable (i.e., *x*-value).
Ratio	tells us how much of one thing there is as compared to another thing. Ratios can be written as 3:4, 3 to 4, or 3/4).
Read the data	to find information explicitly stated in displays of data (e.g., tables, lists, graphs, etc.), recognizing graphical conventions, and making direct connections between the original data and the display.
Real-world problems	the quantitative and spatial problems that arise from a wide variety of human experiences with applications to careers (e.g., making change, figuring sale prices, or comparing payment plans).
Recognize	to identify from knowledge of appearance or characteristic; to select from a set of given choices.
Rectangle	a polygon with four sides and four right angles, opposite sides are equal and parallel.
Rectangular prism	a three-dimensional object constructed from three pairs of parallel rectangles (called faces) that share common edges so as to form an enclosed space such that opposite rectangles are congruent. The vertices of the rectangles are the vertices of the prism, and the sides of the rectangles are called edges.
Recursive pattern (rule)	a pattern in which each number is found from the previous number by repeating a process.

Reflection	the transformation of a figure that produces the mirror image of the original figure. As a result of the transformation, the line over which the reflection occurs becomes a line of symmetry. Informally, a reflection can be thought of as a “flip” of the original figure.
Regroup	a process of reorganizing numbers using place value; a “trading process” that utilizes the equivalents of 1 hundred for 10 tens or 1 ten for 10 ones, etc. For example, when subtracting 309 from 428, 428 is regrouped into 4 hundreds, 1 ten and 18 ones.
Relationship	understanding how and why the rules and procedures work.
Relative position	a location established with reference to another point.
Relative value	a value established with reference to other values.
Remainder	the amount left over when one number or polynomial is divided by another number or polynomial. If the remainder is zero, it is usually said that there is no remainder.
Remaining	left over, existing.
Repeated addition	add equal groups together to find the total, often used to model the concept of multiplication.
Repeating pattern	a pattern that is cyclical in nature, with each cycle repeating elements in the same order.
Represent (Representations)	the use of symbols, charts, graphs, manipulatives, and diagrams that show mathematical ideas or relationships.
Results	solutions; outcomes.
Right angle	an angle formed by two perpendicular lines, the measure of which is 90°.
Rotation	a type of transformation that moves a figure around a fixed point in a circle, called the center of rotation.
Round a number	making a number simpler and easier to use but keeping it close to what it was and understanding that it is less accurate (e.g., rounding to the nearest 10; 73 rounds to 70, 48 rounds to 50).
Routine	the usual series of things that are done at a particular time; the practice of regularly doing things in a fixed order.

Row	a set of data arranged horizontally.
Rule (for a pattern)	a general statement written in numbers or words that describes how to determine any term in a pattern. Rules or generalizations for patterns may include both recursive and explicit notation. In the recursive form of pattern generalization, the rule focuses on the rate of change from one element to the next.
Ruler	a tool used to measure length.
Same	identical; not different
Second	a unit to measure time; 1 second = 1/60 of a minute.
Section	a distinct part or parts into which something is or may be divided or from which it is made up (e.g., sections of a pie chart).
Select	carefully choose as being the best or most suitable.
Separate	1. (verb) See: Partition. 2. (adjective) forming or viewed as a unit apart or by itself; not joined or touching physically.
Sequence	a sequence, in mathematics, is a string of numbers, that follow a particular pattern.
Set model	the use of a discrete set of objects to represent the whole and a subset of those objects to represent a fraction.
Sets	a collection of distinct elements or items.
Shape	1. (two-dimensional) a figure that has length and width, but no height (e.g., circle, square, and triangle). 2. (three-dimensional) an object that has three measurable dimensions – length, width, and height (e.g., prism, pyramid, cylinder, and cone).
short (shorter, shortest)	measuring a small distance from end to end; lasting a small amount of time; comparing distance or time.
Short hand	the shorter hand on an analog clock; the hand on an analog clock that tells the minutes.
Shrinking pattern	patterns in which the numbers decrease, and the amount subtracted changes each time in a predictable way.

Side	a straight line segment of a 2-dimensional shape that is "closed" (all the lines connect up).
Similar figures	two or more figures that have the same shape, but not necessarily the same size.
Simple ratio	neither number in the ratio has a common factor (i.e., 2:4 is a whole number ratio, but divide both numbers by 2 and you get 1:2 which is a SIMPLE whole number ratio)
Size	the relative extent of how big or small something is by dimension, value or magnitude.
Skip count	to count by twos, threes, fives, etc., skipping the numbers in between.
Slide	a type of transformation that moves every point in a graph or geometric figure by the same distance in the same direction without a change in orientation or size.
Small	having comparatively little size or slight dimensions.
Solve	to find the answer to an equation or a problem.
Sort	to separate objects into groups according to properties or characteristics.
Split	the process of dividing shapes or quantities, usually into equal parts.
Square	a polygon with four equal sides and four right angles.
Square foot (ft^2)	a customary unit of measure for area (1 $ft.^2$ = 144 $in.^2$).
Square root	a number that, when multiplied by itself, yields the original number. For example, 3 squared is 9, so a square root of 9 is 3.
Square unit	a unit that has length and width, and is used to measure area (e.g., square inches, square centimeters, acres, etc.).
Squared	The product obtained when a number is multiplied by itself (e.g., 3 squared is 9).
Standard tools	a type of measurement tool in which exact measurements can be taken (i.e., rules, yardsticks, measuring cups, balance)
Standard units of measure	all customary and metric units of measure.

Strategies	any method used to carry out a computation, whether a traditional pencil-and-paper algorithm (i.e., method), an informal written or mental strategy, use of objects, or some combination of these methods. A strategy can include instructional methods, such as activities involving number puzzles, number-related games, multiple solution strategies, etc.
Subitize	to judge the number of objects in a group accurately without counting.
Subtract	the process of taking one amount from another or finding the difference between two numbers.
Subtraction	a mathematical operation that finds the difference between two quantities or how much more one quantity is than a second quantity.
Subtraction sign (–)	a symbol (–) that is read as "minus" or "take away" to represent subtraction.
Successive term	one after the other
Sum	the result when adding two or more numbers (i.e., the answer to an addition computation).
Summarize	to give the main points
Symbol	a notation used to represent an operation or abstract idea (e.g., +, −, >, or π).
Symmetry	1. (symmetric) a geometric figure or graph that consists of two congruent parts. 2. (line symmetry) one side of a shape is a mirror image of the other side.
Table	a set of data, such as words, numbers, or symbols, organized in rows and columns.
Taking away	removing one quantity from another to make a new total.
Tall (taller, tallest)	something that has height especially relative to width; compare heights of objects
Telling time	keep track of the hours; know how to read a clock or watch
Temperature	the extent of warmth or coldness of something; a thermometer is used to measure temperature in Fahrenheit (°F) or Celsius (°C).
Tens	sets of 10 ones (i.e., 10, 20, 30, 40, 50, 60, 70, 80, or 90).
Tens place	the numeral located 2 places to the left of the decimal point; tells how many groups of ten are in the quantity.
Tenths	one of 10 equal parts; 1 digit to the right of a decimal point.

Tenths place	the place value located 1 place to the right of the decimal point; 1 out of 10 equal parts of a whole.
Thermometer	an instrument used to measure temperature (how hot or cold a thing is), usually in the Celsius or Fahrenheit scale.
Thirds	a whole divided into three equal parts.
Three-digit number	a whole number greater than 99 and less than 1000.
Three-dimensional shape	an object that has three measurable dimensions – length, width, and height (e.g., prism, pyramid, cylinder, and cone).
Tiling	Fitting individual tiles together with no gaps or overlaps to fill a flat space.
Time	a system of measuring duration or a specific portion of duration (e.g., year, season, day, hour, minute, and second).
Times	the processes by which a number is added to itself a specified number of times.
Title	a label typically at the top of a graph that tells us what the graph is about.
Today	this present day.
Tomorrow	the day after today.
Tool	any instrument used to solve a problem; it does not necessarily involve technology.
Total	the whole amount or the sum.
Transformation	the application of a rule that may change the size or location of a geometric figure. Transformations may include translation, reflection, or rotation.
Translation	a type of transformation that moves every point in a graph or geometric figure by the same distance in the same direction without a change in orientation or size.
Trend	move in a particular direction as in increasing or decreasing.
Triangle	a polygon with exactly three sides. A triangle may be classified by its angle measures (i.e., acute triangle, obtuse triangle, or right triangle)
TRUE	consistent with fact; accurate; real.
Turn	a type of transformation that moves a figure around a fixed point in a circle, called the center of rotation.

Two-digit number	a whole number greater than 9 and less than 100.
Two-dimensional shape	a figure that has length and width, but no height (e.g., circle, square, and triangle).
Understand	to construct meaning from instructional messages, including oral, written, and graphical communication.
Understanding	the ability to apply concepts and categories
Unequal	not equal in quantity, size, or value.
Unit	a label for a measurement; a single something.
Unit cube	a cube whose sides are one unit long. The volume of a three-dimensional unit cube is one cubic unit, and its total surface area is six square units.
Unit fraction	a fraction with a numerator of 1, such as 1/4 or 1/3.
Unit of capacity	a unit used to measure the amount that can be contained in an object (usually liquid); customary units include cup, pint (pt), quart (qt), and gallon (gal); metric units include liter (L), kiloliter (kL), and milliliter (mL).
Unit of measurement (unit of length)	a standard amount or quantity. Common examples are inches (in.), feet (ft), ounces (oz), grams (g), minutes (min), hours (hr), etc.
Unit square	a square with each side one unit in length. The area of a unit square is one square unit.
Unknown	a numerical value that is not known, often represented by a variable.
Unlike denominators	two or more fractions with unequal denominators (e.g.,6/17 and 3/7).
Value	1. a numerical quantity; how much something is worth. 2. the possible outcomes of a variable. For example, small, medium, and large are possible values for the variable size.
Variability	the degree to which values in a distribution differ.
Variable	1. a quantity that can change or that may take on different values. 2. a symbol (often a letter of the alphabet, sometimes including the Greek alphabet) that represents a number in a mathematical expression (e.g., x, a, n, etc.).
Vertical axis	the vertical axis of a coordinate grid (y-axis).

Visual fraction model	A diagram or representation to show the relative size of a fraction.
Visual representation	creating and forming models that reflect mathematical information
Volume	the amount of space in cubic units that a three-dimensional (solid) figure occupies or contains. Units, such as cubic meters (m^3), cubic inches ($in.^3$), gallons (g), liters (L), and fluid ounces (fl oz) are used to measure volume.
Week	a unit used to measure time; one week = seven days.
Weight	Heaviness, the effect of gravitational pull on an object. Formal units of weight include pounds (lb), ounces (oz), and kilograms (kg).
Whole	1. the sum in part-part-whole addition problems. 2. a chosen unit in a discussion of fractions. 3. an object that is complete in itself
Whole numbers	the numbers 0, 1, 2, 3…; the numbers that do not include fractional parts or negative values.
Width	the measurement or extent of something from side to side.
Word problem	any mathematics exercise expressed as a situation explained in words.
X marks	a method of visually displaying a distribution of data values where each data value is shown as a dot or x mark above a number line. Also known as a dot plot.
***x*- and *y*-values**	a magnitude, quantity, or number denoted by the algebraic terms *x* and *y*.
***x*-axis**	the horizontal axis of a coordinate grid.
***x*-coordinate**	the horizontal value in a pair of coordinates (i.e., how far along the point is). The *x*-coordinate is always written first in an ordered pair of coordinates (*x*, *y*), such as (12, 5). In this example, the value 12 is the *x*-coordinate.
***y*-axis**	the vertical axis of a coordinate grid.[63]
***y*-coordinate**	the vertical value in a pair of coordinates (i.e., how far up or down the point is). The *y*-coordinate is always written second in an ordered pair of coordinates (*x*, *y*), such as (12, 5). In this example, the value 5 is the *y*-coordinate.
Yard (yd)	a customary unit used to measure length; one yard = three feet.
Yardstick	a graduated measuring stick one yard in length.
yesterday	the day before today.

Zero	the number which indicates no quantity, size, or magnitude; zero is neither negative nor positive; zero is the additive identity.