

Glossary for Grades 1–3



algorithm A set of step-by-step instructions for doing something, such as carrying out a computation or solving a problem.

angle A figure that is formed by two rays or two line segments that have the same endpoint.

area The amount of surface inside a shape. Area is measured in square units, such as square inches or square centimeters.

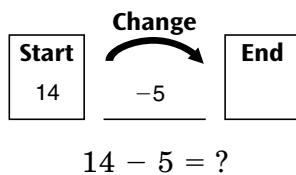
array An arrangement of objects into rows and columns that form a rectangle. All rows and columns must be filled. Each row has the same number of objects, and each column has the same number of objects.

bar graph A graph that uses horizontal or vertical bars to represent data.

base A name used for a side of a polygon or a face of a 3-dimensional figure.

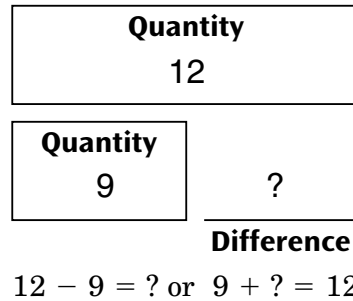
capacity (1) The amount a container can hold. The *volume* of a container. Capacity is usually measured in units such as gallons, pints, cups, and liters. (2) The heaviest weight a scale can measure.

change number story A number story in which an amount is increased (a change-to-more story) or decreased (a change-to-less story). A change diagram can be used to keep track of the numbers and missing information in such problems.



circumference The distance around a circle; the *perimeter* of a circle.

comparison number story A number story in which two quantities are compared. A comparison diagram can be used to keep track of the numbers and missing information in such problems.

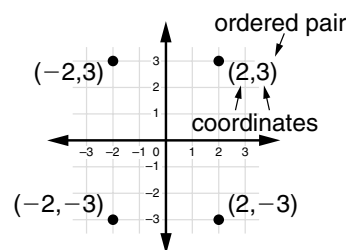


composite number A counting number that has more than two different *factors*. For example, 4 is a composite number because it has three factors: 1, 2, and 4.

cone A solid that has a circular *base* and a curved surface that ends at a point called the apex.

congruent figures Figures that have the same shape and the same size. Two figures on a flat surface are congruent if they match exactly when one is placed on top of the other.

coordinate grid A grid formed by drawing two number lines that form right angles. The number lines intersect at their zero points. You can use *ordered pairs* of numbers to locate points on a grid. (The numbers in each pair are called *coordinates*.) Maps are often based on coordinate grids.



coordinates See *ordered pair*.

counting numbers The numbers used in counting: 1, 2, 3, 4, and so on. Zero is sometimes thought of as a counting number.

cylinder A solid that has two circular *bases* that are parallel and the same size. The bases are connected by a curved surface. A soup can is shaped like a cylinder.

data Information that is collected by counting, measuring, asking questions, or observing.

decimal A number, such as 23.4, that contains a *decimal point*. Money amounts, such as \$6.58, are decimal numbers. The decimal point in money separates the dollars from the cents.

decimal point A dot used to separate the ones place from the tenths place in decimal numbers.

degree (°) (1) A unit of measure for angles. (2) A unit of measure for temperature. In both cases, a small raised circle (°) is used to show degrees.

denominator The number below the line in a fraction. For example, in $\frac{3}{4}$, 4 is the denominator.

diameter (1) A line segment that goes through the center of a circle and has endpoints on the circle. (2) The length of this line segment. The diameter of a sphere is defined in the same way. The diameter of a circle or sphere is twice the length of its *radius*.

digits The symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 that are used to write any number in our number system.

edge A line segment or curve where the surfaces of a solid meet.

endpoint A point at the end of a *line segment* or *ray*. A line segment is named using the letter labels of its endpoints. A ray is named using the letter labels of its endpoint and another point on the ray.

equal groups Collections or groups of things that all contain the same number of things. For example, rows of chairs with 6 chairs per row are equal groups.

equilateral triangle A triangle with all three sides equal in length. In an equilateral triangle, all three angles have the same measure.

equivalent names Different ways of naming the same number.

estimate An answer that should be close to an exact answer. To *estimate* means to give an answer that should be close to an exact answer.

even number A counting number that can be divided by 2 with no remainder. The even numbers are 2, 4, 6, 8, and so on.

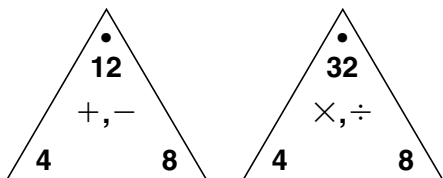
event Something that happens. Tossing heads with a coin is an event. Rolling a number smaller than 5 with a die is an event. The *probability* of an event is the chance that the event will happen.

Explorations In *First through Third Grade Everyday Mathematics*, independent or small-group activities that focus on one or more of the following: concept development, manipulatives, data collection, problem solving, games, and skill reviews.

face A flat surface on the outside of a solid.

fact family (1) A set of related addition and subtraction facts. For example, $5 + 6 = 11$, $6 + 5 = 11$, $11 - 5 = 6$, and $11 - 6 = 5$ are a fact family. (2) A set of related multiplication and division facts. For example, $5 \times 7 = 35$, $7 \times 5 = 35$, $35 \div 5 = 7$, and $35 \div 7 = 5$ are a fact family.

Fact Triangles Cards with a triangle shape that show *fact families*. Fact Triangles are used like flash cards to help you memorize basic addition, subtraction, multiplication, and division facts.



factor (1) Any of the numbers that are multiplied to find a product. For example, in the problem $4 \times 7 = 28$, 28 is the product, and 4 and 7 are the factors. (2) A number that divides another number evenly. For example, 8 is a factor of 24 because $24 \div 8 = 3$, with no remainder.

Facts Table A chart with rows and columns that shows all of the basic addition and subtraction facts, or all of the basic multiplication and division facts.

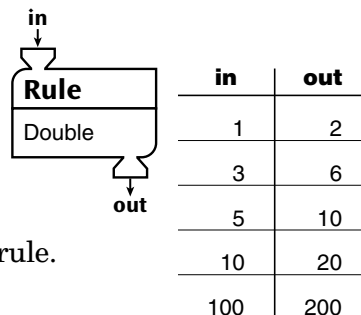
fraction A number in the form $\frac{a}{b}$ or a / b . The number a is called the *numerator* and can be any counting number or 0. The number b is called the *denominator* and can be any counting number except 0. One use for fractions is to name part of a whole or part of a collection.

Frames and Arrows A diagram used in *Everyday Mathematics* to show a number pattern or sequence.



function machine

An imaginary machine used in *Everyday Mathematics* to change numbers according to a given rule.



lattice method One method for solving multiplication problems.

line graph A graph that uses line segments to connect data points. Line graphs are often used to show how something has changed over a period of time.

line plot A sketch of data that uses Xs, checks, or other marks above a number line to show how many times each value appears in the set of data.

line segment A straight path joining two points. The two points are called *endpoints* of the segment.

line symmetry A figure has line symmetry if a line can divide it into two parts that look like mirror images of each other. The two parts look alike but face in opposite directions. The dividing line is called the *line of symmetry*.

Math Boxes In *Everyday Mathematics*, a collection of problems to practice skills. Math Boxes for each lesson are in the *Math Journal*.

Math Message In *Everyday Mathematics*, an introductory activity that children complete before the lesson starts.

maximum The largest amount. The largest number in a set of data.

mean The average number in a set of data. The mean is found by adding all of the data values and then dividing by the number of numbers in the set of data.

median The middle number in a set of data when the numbers are put in order from smallest to largest, or from largest to smallest. The median is also known as the *middle number* or *middle value*.

metric system A measuring system that is used by scientists everywhere, and in most countries in the world except the United States. The metric system is a decimal system. It is based on multiples of 10.

minimum The smallest amount. The smallest number in a set of data.

mode The number or value that occurs most often in a set of data.

name-collection box In *Everyday Mathematics*, a place to write *equivalent names* for the same number.

25	$37 - 12$	$20 + 5$
### ### ### ### ###		
twenty-five	x x x x x	
veinticinco	x x x x x	

negative number A number that is less than zero. A number to the left of zero on a horizontal number line. A

number below zero on a vertical number line. The symbol $-$ may be used to write a negative number. For example, “negative 5” is usually written as -5 .

number grid A table with rows and columns that lists numbers in order. A monthly calendar is a number grid.

number line A line with numbers marked in order on it.

number model A group of numbers and symbols that shows how a number story can be solved. For example, $10 - 6 = 4$ and $10 - 6$ are each number models for the following story:

I had 10 cookies. I gave 6 away.
How many did I have left?

numerator The number above the line in a fraction. For example, in $\frac{3}{4}$, 3 is the numerator.

odd number A counting number that cannot be exactly divided by 2. When an odd number is divided by 2, there is a remainder of 1. The odd numbers are 1, 3, 5, and so on.

ordered pair A pair of numbers, such as (5,3) or (1,4), used to find a location on a coordinate grid. The numbers in an ordered pair are called *coordinates*. See *coordinate grid* for a diagram.

parallel Always the same distance apart, and never meeting or crossing each other, no matter how far extended. Line segments are parallel if they are parts of lines that are parallel. The bases of a prism are parallel. The bases of a cylinder are parallel.

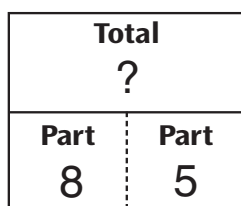
parallelogram A 4-sided *polygon* whose opposite sides are parallel. The opposite sides of a parallelogram are also the

same length. And the opposite angles in a parallelogram have the same measure.

partial-products method One method for solving multiplication problems.

partial-sums method One method for solving addition problems.

parts-and-total number story A number story in which two parts are combined to find a total. A parts-and-total diagram can be used to keep track of the numbers and missing information in such problems.



$$8 + 5 = ?$$

Pattern-Block Template In *First through Third Grade Everyday Mathematics*, a sheet of plastic with geometric shapes cut out, used to draw patterns and designs.

percent (%) Per hundred, for each hundred, or out of a hundred.

$$1\% = \frac{1}{100} = 0.01.$$

perimeter The distance around a polygon or other shape. The perimeter of a circle is called its *circumference*.

pictograph A graph that uses pictures or symbols to show numbers. The key for a pictograph tells what each picture or symbol is worth.

place value A system for writing numbers in which the value of a digit depends on its place in the number.

polygon A closed figure on a flat surface that is made up of line segments joined end to end. The line segments make one closed path and may not cross.

polyhedron A solid whose surfaces (called *faces*) are all flat and formed by *polygons*. A polyhedron does not have any curved surfaces.

positive number A number that is greater than zero. A number to the right of zero on a horizontal number line. A number above zero on a vertical number line. A positive number may be written using the + symbol, but is usually written without it. For example, $+10 = 10$.

prime number A counting number that has exactly two different *factors* that are counting numbers: itself and 1. For example, 5 is a prime number because its only factors are 5 and 1. The number 1 is not a prime number because that number has only a single factor, the number 1 itself.

prism A *polyhedron* that has two parallel *bases* that are formed by polygons with the same size and shape. The other faces connect the bases and are all shaped like *parallelograms*. These other faces are often rectangles. Prisms take their names from the shape of their bases.

probability A number from 0 through 1 that tells the chance that an *event* will happen. The closer a probability is to 1, the more likely the event is to happen.

product The result of multiplying two numbers, called *factors*. For example, in $4 \times 3 = 12$, the product is 12.

pyramid A *polyhedron* in which one face, the *base*, may have any polygon shape. All of the other faces have triangle shapes and come together at a *vertex* called the apex. A pyramid takes its name from the shape of its base.

quadrangle A *polygon* that has four angles. Same as *quadrilateral*.

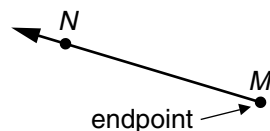
quadrilateral A *polygon* that has four sides. Same as *quadrangle*.

quotient The result of dividing one number by another number. For example, in $35 \div 5 = 7$, the quotient is 7.

radius (plural: **radii**) (1) A line segment from the center of a circle to any point on the circle. (2) The length of this line segment. The radius of a sphere is defined in the same way. The radius of a circle or sphere is one-half the length of its *diameter*.

range The difference between the largest (*maximum*) and the smallest (*minimum*) numbers in a set of data.

ray A straight path that has one endpoint and goes on forever in one direction.



regular polygon A *polygon* whose sides all have the same length and whose angles (inside the polygon) all have the same size.

remainder The amount left over when things are divided or shared equally. Sometimes there is no remainder.

rhombus A *parallelogram* with all four sides the same length. Every square is a rhombus, but not all rhombuses are squares.

right angle A 90° angle. The sides of a right angle form a square corner.

right triangle A triangle that has one 90° angle.

round To adjust a number to make it easier to work with. Often, numbers are rounded to the nearest 10, 100, 1,000, and so on. For example, 864 rounded to the nearest hundred is 900.

scale drawing A drawing that represents an actual object or region, but is a different size. Maps are scale drawings. Architects and builders use scale drawings.

side (1) One of the rays or segments that make up an angle. (2) One of the line segments of a polygon. (3) One of the faces of a solid figure.

solids Three-dimensional shapes, such as prisms, pyramids, cylinders, cones, and spheres.

standard units Measurement units that are the same size no matter who uses them and when or where they are used.

3-dimensional (3-D) Having length, width, and thickness. Solid objects that take up space, such as balls, rocks, boxes, and books, are 3-dimensional.

trade-first method One method for solving subtraction problems.

trapezoid A 4-sided *polygon* that has exactly one pair of parallel sides.

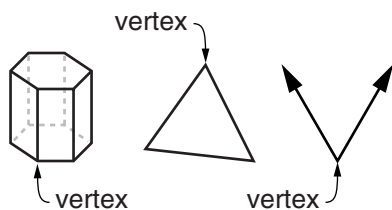
turn-around facts Numbers can be added or multiplied in either order. $3 + 5 = 8$ and $5 + 3 = 8$ are turn-around addition facts. $4 \times 5 = 20$ and $5 \times 4 = 20$ are turn-around multiplication facts. There are no turn-around facts for subtraction and division if the numbers are different.

2-dimensional (2-D) Having length and width but not thickness. Flat shapes that take up area, but not space, are 2-dimensional. For example, rectangles, triangles, circles, and other shapes drawn on paper or a flat surface are 2-dimensional.

U.S. customary system

A measurement system that is used most commonly in the United States. Units for length include inch, foot, yard, and mile; units for weight include ounce and pound.

vertex (plural: **vertices**) A point where the sides of an angle, the sides of a polygon, or the edges of a polyhedron meet; any corner of a solid.



volume The amount of space inside a 3-dimensional object. Volume is measured in cubic units, such as cubic centimeters or cubic inches. The volume or *capacity* of a container is a measure of how much the container will hold. Capacity is measured in units such as gallons or liters.

“What’s My Rule?” problem In *Everyday Mathematics*, a problem in which two of the three parts of a function (*input*, *output*, and *rule*) are known, and the third is to be found out.