Glossary of Math Terms

Compiled by Heather S. Benson

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Algebra—math area that provides tools for picturing, stating, and simplifying relationships; generalization of arithmetic ideas by which unknown values and variables can be found in problem solving. Young children build a foundation for later algebra learning through activities with pattern, relationships, mathematic situations and structures, and change.

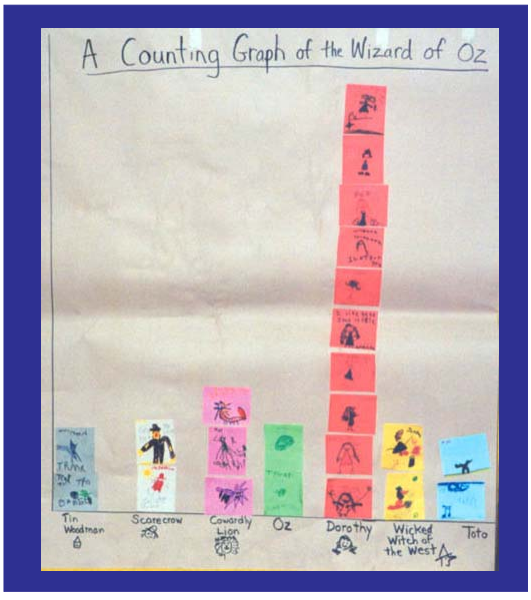
Associativity (associative property of addition / grouping property of addition)—property stating that when addends are grouped in different ways the sum is the same.
Example: $(5 + 9) + 3 = 5 + (9 + 3)$

$14 + 3 = 5 + 12$

$17 = 17$

Attributes—characteristics like shape, size, color, number of parts, weight.

Bar graph—graph in which data are represented by horizontal or vertical bars.
Example: See counting graph below.



Classification—the process of sorting and grouping objects by a common attribute or property, such as color or size.

Commutativity (commutative property of addition)—property stating that when the order of two or more addends is changed, the sum is the same.
Example: $4 + 5 = 5 + 4$

Conservation—the concept that objects remain the same in amount despite perceptual changes. For example, children who are able to conserve know that a cookie broken in half is equal in amount to another cookie left whole, or that a cup of milk (8 ounces) in a tall, narrow glass is equal to a cup of milk in a short, wide glass.

Cylinder—a three-dimensional figure with one curved surface and two parallel, congruent circles as bases.

Data—facts, such as measurements, collected about people or things; for example, how much the plants in the window grew over a one-week period or how many children in the class have pets.

Equivalent fractions—two or more fractions that use different numbers to name the same amount.
Example: $^3/_4 = {}^6/_8$

Estimate—to use judgment to find a number close to an exact amount.

Graph—a drawing or diagram showing a numerical relationship or displaying data.

Hexagon—a polygon with six sides.

Identity property (identity property of zero)—the property stating that the sum of zero and any number is that number.
Examples: $0 + 25 = 25$; $0 + a = a$

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Inverse operations—opposite operations that undo each other; addition and subtraction are inverse operations. *Example*: 5 + 4 = 9, therefore 9 – 4 = 5

Line symmetry—characteristic describing a figure or shape that can be divided along a line so that the sections on either side of the line match exactly.

Manipulatives—easily handled concrete objects, such as beads, puzzles, and peg boards, that children can work with in ways that help them understand or explore mathematic concepts. For example, putting together a puzzle promotes children's understanding of one-to-one correspondence.

Octagon—a polygon with eight sides.

Operation—four basic operations in arithmetic are used to solve problems: addition, subtraction, multiplication, and division.

Pentagon—a polygon with five sides.

Pictograph—graph using pictures to represent data. *Example:* See banana/apple pictograph below.

Polygon—a multisided, two-dimensional, closed figure whose sides are line segments connected end to end, with each segment intersecting two others at its endpoints. *Polygon* is derived from the Greek for *poly,* meaning many, and *gon,* short for *goinia,* which means angle.

Predict—to tell what might happen.

Property—feature or characteristic common to several items—for example, both blocks are red.

Qualitative change—change described using mathematic language incorporating relative mathematic labels like *smaller, higher, wider.* Such changes occur over time and are fairly predictable.

Quantification—determination of how much or how many.

Quantitative change—change described using mathematical language that incorporates more precise numeric language (the use of exact amounts), such as shoe size from 10–11 or sunflower grows 3 cm.

Repeating pattern—a sequence of colors, shapes, sounds, or other attributes that occurs again and again, such as red-red-blue, red-blue-blue . . . ; loud-soft-soft, loud-soft-soft . . . ; circle-square, circle-square . . . .

Seriation—the process of ordering or creating a sequence based on a specific attribute, such as length, height, capacity, weight, or amount of time.

Skip-counting—counting by 2s, 5s, 10s, or other intervals, beginning with any whole number. *Examples:* 5, 10, 15, 20; 7, 9, 11, 13

Sorting—creating collections of objects that share a common attribute. *Example:* See circle/rectangle collections below.

Spatial orientation—understanding and operating on relationships between different positions in space.

Spatial relationship—the positions of objects and people in space relative to each other.

Tally—count data using slash marks, with every fifth slash mark crossing the prior four. *Example*: 𝍸 ll (7)

Trapezoid—a quadrilateral with one pair of parallel sides.

Sources

Everyday Mathematics Glossary for Grades K–3 at **www.auburn.wednet.edu/everydaymath/k3glossary.htm**

Harcourt Multimedia Math Glossary at **www.harcourtschool.com/glossary/math_advantage/glossary1.html**

NCTM Principles and Standards for School Mathematics at **http://standards.nctm.org**

WPS District 39 Math Glossary Grades K-2 at **http://wilmette.nttc.org/wilmette/mathglossary/mathglossk-2.htm**

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