

# Glossary

**accurate** Precise.

**Activity Book** An enriching collection of hands-on activities and manipulatives (to be made by the children) that reinforces conceptual understanding.

**addition** The operation used to find the total value when putting together two or more quantities or when a given quantity is increased.

**addition fact** The sum of two 1-digit numbers, such as  $9+7=16$ .

**algorithm** A step-by-step set of instructions for solving a certain kind of problem.

**A.M.** Abbreviation for ante meridiem (before the middle of the day).

**analog clock** A clock that shows the time by the positions of the hour and minute hands.

**-angle** Suffix meaning angle, or corner.

**angle** A figure that is formed by two rays with a common endpoint. Angles can be represented by rotating one ray while the other is kept stationary.

**apex** The point at which the faces (none of which is a base) of a pyramid meet.

**area** The number of non-overlapping units, usually squares, that can be fit into a bounded surface.

**arm span** The distance from fingertip to fingertip of a person's outstretched arms; also known as fathom. A fathom is standardized at 6 feet (2 yards).

**array** A rectangular arrangement of objects in rows and columns.

**arrow path** The route to follow when moving on a number grid. Solving number-grid puzzles with arrow paths requires using the patterns on the grid. After sufficient practice, arrow paths may be drawn by themselves without the number grid.

**arrow rule** The operation that determines how

**arrows** The links that represent the rule or rules that determine what numbers go in the empty frames of a Frames-and-Arrows diagram.

**attribute** A common feature (size, shape, color, number of parts, and so on) of a set of figures.

**average** A central, or typical, value of a set of numbers. It is determined by finding the sum of all the numbers in the set and then dividing the sum by the number of data; also known as the mean.

**ballpark estimate** A check on the reasonableness of an answer.

**bank draft** A written order for the exchange of money. Since \$1000 bills are no longer in circulation, bank drafts are used instead.

**bar graph** A drawing that shows the relationships among data by the use of bars to represent numbers.

**base** A flat face whose shape is the basis for classifying a polyhedron.

**big cube** The larger cube of the base-10 blocks, consisting of 1000 1-cm cubes.

**birth month** The month in which a person was born.

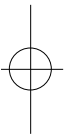
**calendar** A reference frame used to help keep track of the passage of time; keep track of appointments; and permit marking of special days such as birthdays, holidays, and so on.

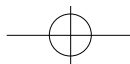
**capacity (of a scale)** The greatest weight a particular scale can hold.

**cartographer** A map maker.

**Celsius** The temperature scale on which zero degrees is the temperature at which pure water freezes.

**census** An official count of population, and the recording of data such as age, sex, income, education, and so on.





on the circle are exactly the same distance.

**centimeter (cm)** In the metric system, a unit of length equivalent to 10 millimeters;  $\frac{1}{10}$  of a decimeter;  $\frac{1}{100}$  of a meter.

**change** The money returned to a buyer when the amount paid is greater than the amount due.

**change diagram** Used to represent addition or subtraction problems in which given quantities are either increased or decreased. The diagram includes the starting quantity, the ending quantity, and the amount of change.

**circumference** The distance around a circle.

**clock face** The part of the clock where the numbers are shown.

**clockwise** A rotation in the same direction as that of the hands of a clock; a turn to the right.

**clutch (of eggs)** A nest of eggs.

**cm cube** The smaller cube of the base-10 blocks, measuring 1 cm on each edge.

**column** A vertical arrangement of objects or numbers in an array or a table.

**communicate** To exchange information by talking, writing, drawing pictures, singing, or through sign language, Morse code, and so on.

**compare diagram** Used to represent problems in which two quantities are given and then compared to find how much more or how much less one quantity is than the other.

**cone** A 3-dimensional shape having a circular base, a curved surface, and one vertex.

**context** A setting for number stories. A number nearly always has a context, such as four pancakes or twelve inches.

**coordinate grid** A device for locating points on a plane. It is formed by drawing two number lines at right angles to each other and intersecting at their zero points.

**coordinates** Pairs of numbers written in a specific order within parentheses and used to locate points on a coordinate grid.

**counterclockwise** A rotation in the opposite direction as that of the hands of a clock; a turn to the left.

**cube** A polyhedron with six square faces.

**cubic units** The units in which volume measurements are expressed.

**cubit** The distance between the elbow and the extended fingertips. It has been standardized at various times between 18 and 22 inches.

**curved surface or curved face** A rounded side of a 3-dimensional shape.

**customary system** See U.S. customary system.

**cylinder** A 3-dimensional shape having a curved surface and parallel circular bases that are the same size. A can is a common object with a cylindrical shape.

**data** A collection of information that is gathered by observation or measurement.

**date** A particular point of time designated by the month, the number of the day in the month, and the year. The complete date also includes the name of the day.

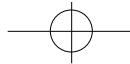
**deca-** Prefix meaning ten.

**decimal point** The period that separates the whole number from the fraction in decimal notation; in expressing money, it separates the dollars from the cents.

**decimeter** In the metric system, a unit of length equivalent to 10 centimeters;  $\frac{1}{10}$  of a meter.

**degree** A unit for measuring temperature. Also a unit for measuring the sizes of angles based on a circle divided into 360 equal parts.





**degrees Celsius** Units for measuring temperature. On the Celsius scale zero degrees is the freezing point of pure water.

**degrees Fahrenheit** Units for measuring temperature. On the Fahrenheit scale 32 degrees is the freezing point of pure water.

**degree symbol** The mark ( $^{\circ}$ ) alongside the number that names a temperature. Since the United States uses both the Fahrenheit and Celsius scales, temperatures are also labeled as  $^{\circ}\text{F}$  or  $^{\circ}\text{C}$ .

**denominator** The number of equal parts into which the unit (the ONE) is divided. It is the number written below the line in a fraction.

**diagonal (of a table)** A line of objects or numbers from upper left to lower right, or from lower left to upper right, in a square array or a table.

**diameter** A line segment that passes through the center of a circle and that has its endpoints on the circle.

**difference** The amount by which one number is greater or less than another number.

**digital clock** A clock that shows the time in hours and minutes with a colon separating the two.

**digits** The ten symbols from 0 through 9 that are used, sometimes with other symbols, to record any number in the base-10 numbering system.

**dime** A coin equal to ten cents,  $\frac{1}{10}$  of a dollar. The word comes from the Latin word decima, which means tenth.

**division** The operation used to solve equal-sharing or equal-grouping problems. It is used to find how a total amount can be separated into an equal number of groups, or into groups of equal size.

**dollar** Paper currency equal to 100 cents. There are also dollar coins, in limited circulation, that are equal to 100 cents.

**domino puzzle** An activity, presented as a domino, which explores the relationship (as does What's My Rule?) between the numbers of dots on the two sides of the domino.

polyhedron, prism or pyramid meet.

**embedded figure** A figure entirely enclosed within another figure.

**endpoint** The point at each end of a line segment. The names of the points are used for naming a line segment. "Segment LT" or "segment TL" is the line segment between, and including points L and T.

**equal groups** Sets with the same number of elements, such as tables with 4 legs, rows with 6 chairs, boxes each containing 100 clips, and so on.

**equal parts** Same-size parts of a unit; same number of parts of a group.

**equal-sharing story** A number story that uses the operation of division to get the solution.

**equidistant marks** Marks equally distant from one to another.

**equilateral triangle** A triangle with all three sides the same length.

**equivalent fractions** Fractions that have different numerators and denominators but that name the same amount.

**equivalent names** Different ways of naming the same number. For example:  $2+6$ ,  $4+4$ ,  $12\div 4$ ,  $18\div 10$ ,  $100\div 92$ ,  $5+1+2$ , eight, VIII, and  $///\wedge ///$  are equivalent names for 8.

**estimate** A calculation of a general, rather than an exact, answer; an approximation of a number.

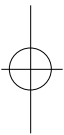
**even number** A whole number that can be evenly divided by two. It has 0, 2, 4, 6, or 8 in the ones place.

**event** A happening or occurrence. The tossing of a coin is an event.

**Exploration** An independent or small-group activity. Exploration activities include concept development with (limited supply) manipulatives, links to more abstract levels, data collection, classification and ordering, problem solving, games, and skill reviews.

**explore** To examine for the purpose of discovery.

**face** A surface that bounds a 3-D shape. It may



**fact extensions** Calculations with larger numbers using knowledge of basic facts. For example, knowing the basic fact  $5+8=13$ , makes it

easier to solve problems such as  $50+80=?$ ,  $35+8=?$ , and  $65+?=73$ . Fact extensions also apply to basic subtraction, multiplication, and division facts.

**fact family** A collection of related addition and subtraction facts, or multiplication and division facts, made from the same numbers. For the numbers 2, 5, and 7, the family consists of  $2+5=7$ ,  $5+2=7$ ,  $7\div 5=2$ , and  $7\div 2=5$ . For the numbers 3, 5, and 15, the family consists of  $3\text{A}5=15$ ,  $5\text{A}3=15$ ,  $15\div 3=5$ , and  $15\div 5=3$ .

**fact habits** Number-fact reflexes; automaticity in knowing basic addition, subtraction, multiplication, and division facts.

**fact power** Development of basic number-fact reflexes so that the facts are known without having to figure them out.

**Fact Triangles** Triangular cards that use the members of fact families for practice with addition/subtraction and multiplication/division facts. Two one-digit numbers and their sum or product (marked with an asterisk) appear in the corners of each triangle.

**factor of a number** A whole number that can be multiplied by another whole number to get the given number. A number that can be divided by a given number without having a remainder has factors.

**factors** The numbers being multiplied in a multiplication number model. In the number model  $4\text{A}3=12$ , 4 and 3 are the factors.

**Facts Table** A chart of rows and columns, also known as an Addition Table or a Multiplication Table, for use in finding addition and subtraction or multiplication and division facts.

**Fahrenheit** The temperature scale on which 32 degrees is the temperature at which pure water freezes.

**flat** The base-10 block consisting of 100

concentrate on particular needs for maintaining a balanced diet.

**foot (ft)** In the U.S. customary system, a unit of length equivalent to 12 inches;  $\frac{1}{3}$  of a yard.

**fraction** A way of naming a number of equal parts of some unit.

**frames** The empty shapes in which numbers are written in a Frames-and-Arrows diagram.

**Frames and Arrows** Diagrams used to represent number sequences—sets of numbers that are ordered according to a rule or rules. The diagrams consist of frames in which numbers are written and arrows that give the rule(s) for moving from one frame to another. Frames-and-Arrows diagrams are also called chains.

**frequency** The number of times an event or value occurs in a set of data.

**frequency graph** A diagram used to represent the relationships among the data, usually summarized on a frequency table.

**frequency table** A chart on which data is tallied to find the frequency of given events or values.

**fulcrum** The center support of a pan balance.

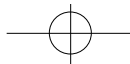
**function machine** A diagram of an imaginary machine programmed to process numbers according to a certain rule. A number (input) is put into the machine and is then transformed into a second number (output) through the application of the designated rule.

**generation** A single stage in a natural family descent (father, son, grandson). People born about the same time.

**girth** The measure around a 3-dimensional object.

**-gon** Suffix meaning angle.

**habit** Usual manner of behavior. good or bad.



**half** One of two equal parts.

**hand span** The distance from the end of the thumb to the end of the little finger of an outstretched hand. The span is standardized at 9 inches.

**height** A measure of how tall something is.

**hepta-** Prefix meaning seven.

**heptagon** A 7-sided polygon.

**hexa-** Prefix meaning six.

**hexagon** A 6-sided polygon.

**Home Links** Suggested activities intended to promote follow-up and enrichment activities in the home.

**horizontal** Parallel to the plane of the horizon.

**hour** Unit of time. It is  $\frac{1}{24}$  of a day.

**hour hand** The short hand on an analog clock or watch that shows the number of hours. It goes around the clock face once in twelve hours.

**hundreds** The place-value position that is equal to one hundred times the unit value.

**hundredths** The place-value position that is equal to  $\frac{1}{100}$  of the unit value; the second digit to the right of the decimal point.

**inch (in)** In the U.S. customary system, a unit of length equivalent to  $\frac{1}{12}$  of a foot.

**input** A number inserted into an imaginary function machine that processes numbers according to a designated rule.

**intersecting** Sharing a common point or points.

**irregular (polygons)** Polygons with sides of different lengths.

**Journal** A student record of mathematical discoveries and experiences. Journal pages provide visual models for conceptual understanding; problem material; and activities for individual and small-group settings.

**Label** A descriptive word or phrase used to put a number or numbers in context. Using a label reinforces the idea that numbers always refer to something. Flags, snowballs, and scary monsters are examples of labels.

**labyrinth** A maze.

**lattice multiplication** An algorithm for multiplying with multidigit numbers.

**length (of a rectangle)** Usually the longer dimension of a rectangle or a rectangular object.

**line** An undefinable 1-dimensional object made up of an infinite set of points; or the path traveled by a point infinitely in one direction.

**line graph** A drawing that shows the relationships among data by using a set of points connected by line segments; often used to show trends.

**line of symmetry** The line on which a shape can be folded into two matching halves.

**line segment** The set of points between and including any two points on a line. Segments have length, whereas lines do not.

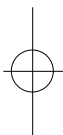
**long** The base-10 block consisting of 10 cm cubes.

**making change** When a buyer pays with coins or bills that add up to more than the cost of the item(s) being purchased, the vendor gives back the money owed by counting out the difference between the amount due and the amount tendered.

**map scale** A ratio that compares the distance on a map to the actual distance between two locations. The ratio is often represented by a labeled line segment.

**Masters** Pages ready for duplicating. Most of these are used by children in carrying out suggested activities. Some may be used more than once during the school year.

**Math Boxes** A format used to provide review problems and skills practice.



**mathematics** A study of relationships among numbers, shapes, and patterns. It is used to count and measure things, to discover similarities and differences between and among them, to solve problems, and to learn about and organize our world.

**Mathematics in My World** Pages on which third grade children record numbers that are important and integral parts of their lives, such as height and weight records.

**Math Messages** Activities for children to complete before the start of the daily lessons, or reviews of previously learned topics that may consist of problems to solve, directions to follow, tasks to complete, notes to copy, sentences to complete or correct, or brief quizzes.

**maximum** The greatest amount.

**mean** The average of a set of data. It is calculated by finding the sum of all the numbers in the set and then dividing the sum by the number of data.

**measurement unit** The reference unit used when measuring length, weight, capacity, time, or temperature. Ounces, degrees, and centimeters are examples of measurement units.

**median** The number in the middle when a set of data is organized in sequential order; also known as the middle value.

**memory keys** Calculator keys commonly labeled [M+], [M-], and [MRC]. The [M+] key is used to add a number to the number stored in the calculator's memory; the [M-] key is used to subtract a number from the number in memory. The [MRC] key, pressed once, displays the number currently stored in memory; when the key is pressed twice, the calculator's memory is cleared.

**mental arithmetic** Does not require all computations to be done in one's head. Rather children develop a variety of flexible solution strategies, including drawing pictures and doodles, counting jumps on a number line

**mercury** A silver-colored metallic element used in thermometers. The temperature is read at the point to which the mercury has risen in the column alongside the temperature scale.

**meter** In the metric system, a unit of length equivalent to 10 decimeters; 100 centimeters; 1000 millimeters.

**metric system** The measurement system used in most countries in the world; a system of measurement based on the decimal numeration system. Some measures include: linear (length, distance)—millimeter, centimeter, decimeter, meter, kilometer; mass (weight)—gram, kilogram; and capacity (an amount of liquid or other pourable substance)—milliliter, liter.

**middle value** The number in the middle when a set of data is organized in sequential order; also known as the median.

**millimeter** In the metric system, a unit of length equivalent to  $\frac{1}{10}$  of a centimeter;  $\frac{1}{1000}$  of a meter.

**minimum** The least amount.

**minute** Unit of time. It is  $\frac{1}{60}$  of an hour.

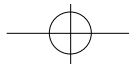
**minute hand** The long hand on an analog clock or watch that shows the number of minutes. It goes around the clock face once every hour (60 minutes).

**mode** The number (or value) that occurs most often within a set of data.

**multiples** Repeated groups of the same amount. Multiples of a number are the products of that number and whole numbers.

**multiplication** The operation used to find the total number of things in several equal groups, or to find the number that is x times as many as another number.

**multiplication diagram** Used to represent numbers in which several equal groups are being considered together. The diagram has three parts: the number of groups, the number



**Name-Collection Box** A box-like diagram tagged with a given number and used for collecting equivalent names for that number.

**negative numbers** Numbers less than (below) zero.

**net weight** The weight of the contents of a container without including the weight of the container itself.

**nickel** A coin equal to five cents;  $\frac{1}{20}$  of a dollar.

**n-gon** A synonym for polygon in which  $n$  represents the number of angles or segments that make up the polygon. For example: 5-gon or 9-gon.

**nona-** Prefix meaning nine.

**number family** A collection of any triplet of numbers consisting of two addends and their sum or two factors and their product.

**number grid** A table in which consecutive numbers are arranged in rows of ten. A move from one number to the next within a row is a change of one; a move from one number to the next within a column is a change of ten.

**number-grid puzzle** A piece of a number grid in which some, but not all, of the numbers are missing. It is used for practice with place-value concepts.

**number line** A line on which equidistant points correspond to numbers in order. Used as a frame of reference for counting and numeration activities.

**number model** The numerical representation (number sentence) that shows how the parts of a number story are related. Some examples are  $5 + 8 = 13$ ;  $27 \div 11 = 16$ ;  $3 \times 30 = 90$ ;  $56 \div 8 = 7$ .

**number scroll** Multiple number-grid pages taped together.

**Numbers About Me** Pages on which first grade children record numbers that are important and integral parts of their lives, such as height and weight records.

**Numbers in My World** Pages on which second grade children record numbers that are important and integral parts of their lives, such as height and weight records.

**number story** A story made up by children or their teachers or parents, which contains a problem that can be solved by one or more of the four basic operations: addition, subtraction, multiplication, and division.

**numerator** Names the number of equal parts of the unit (the ONE) being considered. It is the number written above the line in a fraction.

**octa-** Prefix meaning eight.

**octagon** An 8-sided polygon.

**odd number** A whole number that cannot be evenly divided by two. It has 1, 3, 5, 7, or 9 in the ones place.

**odometer** An instrument for measuring the distance traveled by a vehicle.

**1-facts** The sum of any two 1-digit numbers where one of the numbers is one, such as  $6 + 1 = 7$ . If one is added to any number, or vice-versa, the result is always the next higher number. Also, the product of any two 1-digit numbers where one of the numbers is one, such as  $1 \times 3 = 3$ . The product of 1 and any number is always equal to that number.

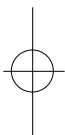
**ones** The place-value position that is equal to the unit value.

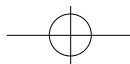
**ordered pair** A pair of numbers used to locate points on a coordinate grid.

**ordinal number** A number used to express position or order in a series, such as first, third, tenth. People generally use ordinal numbers to name dates—for example, “May fifth,” rather than “May five.”

**outcome** The result of an event. Heads and tails are two possible outcomes of the event of tossing a coin.

**output** The number resulting from the application of a rule used by an imaginary function machine to process numbers.





**parallel** Equidistant at all points, no matter how far extended; never meeting.

**parallelogram** A quadrilateral that has two pairs of parallel and equal opposite sides.

**parentheses** Grouping symbols ( ) that are used in multi-operation number models to indicate which operation(s) should be done first.

**parts-and-total diagram** Used to represent problems in which two or more quantities are combined to form a total quantity. It is often used when the parts are known and the total is unknown. It can also be used when the total and one or more parts are known, but one part is unknown.

**pattern** A model or plan by which objects or numbers can be arranged so that what comes next can be predicted.

**penny** A coin equal to one cent;  $\frac{1}{100}$  of a dollar.

**penta-** Prefix meaning five.

**pentagon** A 5-sided polygon.

**per** In each or for each, as in ten chairs per row or six tickets per family.

**percent, %** Per hundred; times  $\frac{1}{100}$ ; times 0.01;  
1 one-hundredth part. 15% means  $\frac{15}{100}$  or 0.15 of a number.

**perimeter** The distance around a surface with a boundary. Peri- comes from the Greek word for around and meter comes from the Greek word metron that means measure: so perimeter means around measure.

**pie graph** A drawing that represents data by using a circle divided into parts to show the relationships of the parts to the whole. Also called a circle graph.

**place value** The relative worth of each digit in a number as determined by its position or place. Each place has a value ten times that of the place to its right and one-tenth of the value of the place to its left.

**plane** A 2-dimensional flat surface that extends

**P.M.** Abbreviation for post meridien (after the middle of the day).

**point** An exact location in space, having no size. Points are usually labeled with capital letters.

**poly-** Prefix meaning many.

**polygon** A 2-dimensional figure, all of whose sides are line segments connected end to end so that each segment intersects exactly two others at its endpoints. The word comes from the Greek language: poly means many and gon is short for gonia which means angle.

**polyhedron** A 3-dimensional shape, all of whose surfaces (faces) are flat, as opposed to curved. Each face is a polygon.

**population** The total number of people living within a certain geographical area.

**poster** A Journal page displaying a range of numerical data. The poster may be referred to as a source of data for developing number stories in lessons following the lesson in which it is introduced.

**pound (lb)** In the U.S. customary system, a unit of weight equivalent to 16 ounces (oz).

**power of a number** The product of factors all of which are the same. For example,  $5^3$  (five the third power, or  $5 \times 5 \times 5$ ) is another way to name 125.

**precipitation** Rain, snow, sleet, etc.

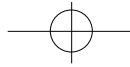
**precision (of a scale)** Accuracy of a scale. The smaller the unit, or fraction of a unit, used, the more precise the scale.

**prime number** A whole number, greater than that has exactly two factors, 1 and itself.

**prism** A polyhedron (3-dimensional shape) with two parallel flat faces (called bases) with the same size and shape. Prisms are classified according to the shape of the two parallel bases; the sides (also called faces) are parallelograms.

**product** The result of doing multiplication. In the number model  $4 \times 3 = 12$ , 12 is the product.





**Project** A thematic activity to be completed in one or more days by small groups or by the whole class. Projects often involve collecting and analyzing data and are usually cross-curricular in nature.

**protein** A dietary element essential for the building of muscle and other tissue in all animals.

**pyramid** A polyhedron (3-dimensional shape) in which one face (called the base) is a polygon and the other faces are triangles with a common vertex. A pyramid is classified according to the shape of its base.

**quadrangle** A 4-sided polygon.

**quadrilateral** A 4-sided polygon.

**quadruple** Four times an amount.

**quarter** A coin equal to twenty-five cents;  $\frac{1}{4}$  of a dollar. Quarter comes from the Latin word *quartarius*, which means fourth part.

**quotient** The result after dividing one number by another number; the number of equal shares. In the division number model  $11 \div 5 \sum 2$  R1, the number 2 is the quotient.

**random sampling** Taking a sample from a population in a manner that allows all members of the population the same chance of being selected.

**range** The difference between the greatest and least values in a set of data.

**rate diagram** Used to represent problems in which the total number of objects in several equal groups is being considered. The diagram has three parts: the number of groups, the number in each group, and the total number.

**ray** A part of a line with a beginning point and all points on one side.

**rectangle** A parallelogram whose corners are all right angles.

**rectangular prism** A prism whose faces are

all sides the same length and all angles equal.

**regular polyhedron** A polyhedron having all faces the same shape and same size.

**regular price** The customary selling price of an item.

**remainder** The amount left over when things are divided into equal groups or shared equally. In the division number model  $16 \div 3 \sum 5$  R1, the R1 denotes a remainder of 1.

**rhombus** A parallelogram with four equal sides and with corners that need not be square.

**right angle** A square corner; a  $90^\circ$  angle.

**rotation** A turn around a center point or axis.

**round** To express a number in a simplified way. Common ways to round include rounding down, and rounding to the nearest target value.

**row** A horizontal arrangement of objects or numbers in an array or a table.

**rule table** A table for displaying the input and output functions in the What's My Rule? routine.

**sale price** A reduced selling price for an item.

**sample** A part of a population intended to represent the nature of the whole.

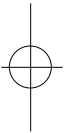
**scale** (on a thermometer) A number line used for measuring temperature. The line may be circular.

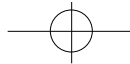
**scale factor** A number that names "how many times as many?" or "what fraction of?" one quantity is of another quantity.

**scroll** A roll of paper with words and/or pictures written on it.

**second** A unit of time. It is  $\frac{1}{60}$  of a minute.

**second hand** The hand on an analog clock or watch that shows the number of seconds. It goes around the clock face once every minute (60 seconds).





**side** Any one of the line segments that make up

a polygon. Sometimes a face of a 3-dimensional figure is called a side.

**similar figures** Figures that have the same shape but are not necessarily the same size.

**sphere** A 3-dimensional shape whose curved surface is, at all points, a given distance from its center point. A ball is a solid sphere.

**square** A rectangle whose sides are all the same length.

**square number** A number that is the product of a number and itself; a number that can be represented by a square array.

**square units** The units used to measure area. A square unit represents a square with the measure of each side being one of that unit. A square inch represents a square that measures one inch on each side.

**standard square unit** A unit used to measure area—a square that measures 1 inch, or 1 centimeter, or 1 yard, or 1 other standard measure of length, on each side.

**standard unit** A uniform unit of measure.

**straightedge** A tool, such as a ruler, used to draw line segments.

**subtraction** The operation used to find the difference between quantities.

**sum** The result of adding two or more numbers.

**symmetry** Having the same size and shape across a dividing line or around a point.

**tally count** Marks  $///\wedge$   $////$  used to keep track of an amount to be counted.

**telephone prefix** The first three digits following the area code in a telephone number.

**template** A sheet of plastic with geometric shapes cut out, used to draw patterns and designs.

**ten-thousands** The place-value position that is equal to ten thousand times the unit value.

**tenths** The place-value position that is equal to  $\frac{1}{10}$  of the unit value; the first digit to the right of the decimal point.

**tetrahedron** A polyhedron with four triangular faces.

**thermometer** A tool used to measure temperature.

**thousands** The place-value position that is equal to one thousand times the unit value.

**thousandths** The place-value position that is equal to  $\frac{1}{1000}$  of the unit value; the third digit to the right of the decimal point.

**3-digit number (hundreds number)** Any of the numbers from 100 through 999.

**three-dimensional (3-D)** Objects that exist in space, having thickness, length, and width.

**tiling** Covering a plane so there are no spaces or overlaps. Sometimes called a tessellation.

**time line** A device for showing in sequence when events took place. A time line is a number line with the numbers naming years, days, etc.

**times** Multiplied by. “4  $\times$  6” is read as “4 times 6” or “4 multiplied by 6.” This indicates how many equal groups are being considered together.

**tip** Money given, in addition to a billed amount, to express appreciation for service received; a gratuity.

**tool kit** A bag or a box containing a calculator, measuring tools, and manipulatives that will be used often throughout the program.

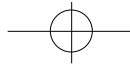
**trapezoid** A quadrilateral that has one pair of parallel sides.

**triangle** A 3-sided polygon.

**triangular prism** A prism whose base is a triangle.

**triangular pyramid** A pyramid in which all





**turn-around facts** A pair of facts in which the order of the addends or the factors is reversed. Examples:  $3+5=8$  and  $5+3=8$  or  $3 \times 9=27$  and  $9 \times 3=27$ . If a fact is known, its turn-around is also known.

**turns** Rotations.

**2-digit number (tens number)** Any of the numbers from 10 through 99.

**two dimensional (2-D)** Objects completely within a plane; objects with length and width but no depth.

**typical measure** A measure representing a set of data; a landmark of the data. Common typical measures include the mode, the median, and the mean (average).

**unit** A label, descriptive word, or unit of measure, associated with a number in context. Using a unit with a number reinforces the idea that numbers refer to something. Fingers, snowballs, miles, and cents are examples of units.

**unit box** A rectangular box displayed beside a problem or a set of problems. Unit boxes contain the labels or units of measure used in the problem(s).

**unit marks** The equidistant marks (tick marks) that represent numbers on thermometers, rulers, and other scales of measurement.

**U.S. customary system** The measuring system used most frequently in the United States. Some measures include: linear (length, distance)—inch, foot, yard, mile; weight—ounce, pound; capacity (amount of liquid or other pourable substance)—cup, pint, quart, gallon.

**vertex (vertices)** The point where the rays of an angle meet. The point(s) where the sides of a polygon meet. The point(s) where the edges of a polyhedron meet.

**vertical** Upright; perpendicular to the horizon.

**volume** The amount of space a 3-dimensional object takes up.

**vowel** In English, one of the letters a, e, i, o, u, and sometimes y.

**weather forecast** A prediction of future weather.

**weight** A measure of how heavy something is.

**What's My Rule?** A routine that consists of a set of number pairs in which the numbers in each pair are related to each other according to the same rule. The problems are usually displayed in table form: two of the three parts are known (input, output, and rule), and the goal is to find the unknown part.

**width (of a rectangle)** Usually the shorter dimension of a rectangle or rectangular object.

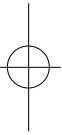
**x-by-y array** An arrangement having x rows of y per row, representing x sets of y objects in each set.

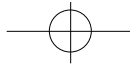
**yard (yd)** Historically, the distance from the tip of the nose to the tip of the longest finger. In the U.S. customary system, a unit of length equivalent to 3 feet; 36 inches.

**0-facts** The sum of any two 1-digit numbers where one of the numbers is zero, such as  $0+5=5$ . If zero is added to any number, or vice versa, there is never any change in the number. Also, the product of any two 1-digit numbers where one of the numbers is zero, such as  $4 \times 0=0$ . The product of any number and 0 is always 0.

**ZIP code** A five- (or nine-) digit number assigned by the postal service to be used as part of a mailing address. It designates a delivery point to help expedite the delivery of the mail.

**zone** A group of locations within a range of distances. A division of locations for which a uniform rate is charged by a delivery or transportation system.





# Glossary



