Name: Leta Roberts

Grade Level/Subject: 2nd grade/ Mathematics

Topic: Talking About Your Name in Math Terms

Objectives (P.A.S.S.): Standard 2.1.1

- examine their names for mathematical concepts found therein.
- express their names in mathematical terms/language.
- look for math in other words and phrases.

Instruction:

This lesson is designed to promote the use and understanding of the language associated with mathematics. The students will be thinking about and reviewing vocabulary words which they have been exposed to in previous classes.

Keywords:

math, vocabulary, imagination, creative

Materials Needed

- paper
- pencils
- dictionaries
- imagination!

1. Introduction:

This is a fun lesson to use at the beginning of the year, especially for math teachers; but it can be used at any time of year, and can be repeated during the year as students build analytical thinking skills and their math vocabulary.

2. Instructional Process:

Begin the lesson by writing your own name (or perhaps the school's name) in LARGE BLOCK LETTERS on the board or a chart. Stand back and study the name, then make grade-appropriate mathematical comments about it; for example, I might begin by saying "My name is PAULINA. I can make a lot of mathematical comments about my name. There are seven letters in PAULINA. The L is the middle letter. The L is a right angle. There are two A's; the letter A is a congruent letter. The P and the A's have a similar property; they all contain one enclosed space. The I is vertical, but if it was rotated it would be horizontal..." The idea is to include as many mathematical descriptions as you can think of for your name.

Have students write a word -- such as their own name -- in block letters. Alternatively, you might let students work in pairs or give individual students a word such as the name of their town or unit of study (such as ENVIRONMENT or GEOMETRY).

Closure: Give students time to analyze the word from a mathematical perspective according to their level. Young students will recognize numbers and shapes and be able to talk about them; older students will be able to locate and write/discuss vertices, angles of depression, converging lines, corresponding angles, radiant points, and so on.

Math vocabulary will depend upon the grade/math level of the students. Younger students will use terms such as *same as, sloped, square,* and *lines going the same way* while older students might use other words meaning the same things such as *congruent, diagonal, quadrilateral,* and *parallel.*

Extending the lesson:

- In subsequent lessons, a small prize might be given for the student who finds the most mathematical comments about a given word.

Assessment

The quality and the quantity of the comments -- either spoken or written -- will be assessed; the students' skills in this area should increase with successive lessons.

Modifications/Accommodations

- Parents can help if the lesson is sent home for homework.
- Teacher can help ESL students and special needs students locate some different mathematical descriptions.

Reflection:

I told my students that a small prize would be given for the student who found the most mathematical comments about a given word. This encouraged them to hunt really hard to find as many descriptions as they could. My students really enjoyed this activity which allowed them to review math vocabulary previously taught.

Math Vocabulary

The vocabulary is included in the grade level in which they are introduced. Each grade level builds upon the previous grade levels and reviews the previously learned vocabulary.

Kindergarten

Term	Definition
Area	The measure, in square units, of the interior region of a 2-dimensional figure or the surface of a 3-dimensional figure.
Circle	A closed curve with all its points in one plane and the same distance from a fixed point (the center).
Even (number)	A whole number that is divisible by 2. Even numbers have 0, 2, 4, 6, or 8 in the ones place.
Hexagon	A polygon with six sides.
Length (l)	(1) The distance along a line or figure from one point to another. (2) One dimension of a 2- or 3- dimensional figure.
Less than <	Smaller in size, quantity, or amount.
Line	An infinite set of points forming a straight path extending in two directions.
Number	A mathematical unit used to express a quantity or amount.
Numeral	A symbol (not a variable) used to represent a number.
Odd (number)	A whole number that is not divisible by 2. All odd numbers have 1, 3, 5, 7, or 9 in the ones place.
Order	A customary/standard method of procedure.
Pattern	A predictable sequence.
Probability	The chance of an event occurring. If all outcomes of an event are equally likely, the probability of an event is equal to the number of favorable outcomes divided by the number of possible outcomes. P (event) = # of favorable outcomes/# of possible outcomes
Rectangle	A quadrilateral with two pairs of congruent, parallel sides and four right angles.
Rhombus	A parallelogram with all four sides equal in length.
Sphere	A 3-dimensional figure made up of all points that are equally distant from a point called the center.
Square	A parallelogram with four congruent sides and four right angles.
Sum	The result of addition.
Symmetry	The exact/same correspondence in size, form, and arrangement of parts on opposite sides of a plane, line, or corresponding parts.
Triangle	A polygon with three angles and three sides.
Weight	A measure of the heaviness of an object.

First Grade

Term	Definition
3 Dimensional drawing	Existing in 3 dimensions; having length, width, and height.
Addition	To combine numbers.
Approximate (number)	A number that describes another number without specifying it exactly.
Axis (straight line)	A reference line from which distances or angles are measured on a coordinate grid.
Chart	A graphic organizer of data.
Cube	(1) A regular solid with six congruent square faces. (2) The third power of a number.
Cup (c)	A customary unit of capacity equal to 8 fluid ounces.
Data	Information, especially numerical information. Usually organized.
Diagonal	A line segment that joins two vertices of a polygon BUT it is not a side of the polygon.
Difference	The amount that remains after one quantity is subtracted from another.
Feet/Foot	A customary unit of length equal to 12 inches. Plural of foot is feet.
Fraction	A way of representing part of a whole or part of a group by showing the number of equal parts in the whole below the number of those parts you are describing.
Greater	Larger quantity.
Greater than >	A symbol which compares the quantities of two numbers.
Inch	A customary unit of length equal to 1/12 foot.
Neighbor	In numerical order, one more or one less than a specified number.
Perimeter	The distance around the outside of a figure.
Point	An exact location in space.
Prediction	Using a sample to predict/decide what is <u>likely</u> to occur.
Variable	(1) A quantity that can have different values. (2) A symbol that can stand for a variable.
Volume (capacity)	The number of cubic units it takes to fill a solid.
Whole (number)	Any of the numbers 0, 1, 2, and so on.
Width	One dimension of a 2-or 3-dimensional figure.

Second Grade

Term	Definition
2 Dimensional	Existing in 2 dimensions; having length and width.
Addend	Any number being added.
Angle	Two rays that share an endpoint.
Capacity	The maximum amount that can be contained by an object.
Digit	Any one of the tem symbols 0, 1, 2,
Equation	A statement that two mathematical expressions are equal.
Equivalent	Having the same value.
Estimation	Finding a number that is close to an exact amount; an estimate tells about how much or about how many.
Flip/reflection	A transformation creating a mirror image of a figure on the opposite side of a line.
Grid	A pattern of horizontal and vertical lines, usually forming squares.
Least common multiple	The smallest common multiple of a set of two or more numbers.
Less than <	Smaller in size, quantity, or amount.
Mass	The amount of matter in an object.
Median	When the numbers are arranged from least to greatest, the middle number of a set of numbers, or the mean of two middle numbers when the set has two middle numbers.
Mile	A customary unit of distance equal to 5280 feet or 1760 yards.
Mode	The number that appears most frequently in a set of numbers. There may be one, more than one, or no mode.
Multiplication sentence	An equation which shows a product. Example: 3 x 8 = 24
Parallel	Always the same distance apart.
Pint	A customary unit of capacity equal to 2 cups.
Place value	The value of the position of a digit in a number.
Polygon	A closed plan figure formed from line segments that meet only at their endpoints.
Pound	A customary/standard unit of weight equal to 16 ounces.
Product	The result of multiplication.
Quadrilateral	A four-sided polygon.
Quart	A customary/standard unit of capacity equal to 2 pints or 16 ounces.
Range	The difference between the greatest and the least value in a set of data.
Regroup	Use place value to think of a number in a different way to make addition and subtraction easier.
Remainder	In whole-number division, when you have divided as far as you can without using decimals, what has not been divided yet is the remainder.

Right angle	An angle that measures exactly 90 degrees.
Similar	Figures that have the same shape, but not necessarily the same size.
Slide/translation	The transformation that slides a figure a given distance in a given direction.
t-chart	A two column graphic organizer of information.
Turn/rotation	A transformation in which a figure is turned a given angle and direction around a point.
Yard	A customary/standard unit of length equal to 3 feet.