More Buzz Words: Common Math Terms and Concepts Explored in Preschool and Early Primary Classrooms

Some of the terms used in the math section of the content test sound unfamiliar, but refer to concepts that we know and use in our classrooms. If you see a term you don't recognize, take a deep breath and try to decode it – either by imagining it in your head, or by translating it into terms you are comfortable with.

Sorting: grouping objects together that are similar in some way, such as by color/shape/size

Estimating: the ability to make a guess at a numerical quantity that is close to the correct answer without counting or measuring.

Patterns: refers to units of something that repeat. A calendar has patterns of days, a shirt might have a pattern of colorful stripes that repeat. In math we can name patterns by the way units repeat: ABA, ABBA, ABC, etc.

Subitizing: a child's ability to immediately recognize the total number of items in a collection (without counting) and label it with n appropriate number word

Seriation: the ability to put objects in order such as from tallest to shortest.

Cardinal Numbers: A cardinal number says how many of something there are, such as one, two, three, four, five. Cardinality refers to the child's ability to count the basic number of members in set and to understand that

Ordinal Numbers: Ordinal numbers give relative position within a set: first, second, third, etc. Ordinality refers to the child's ability to place numbers in a sequence: knowing 3 comes before 4, and 5 is after 4.

Number line – think of a ruler. It's a line with numbers in sequential order that allows students to visualize numbers and their relationships to each other
   o An Open Number Line is one where there are not set numbers starting at 1. This way the user can plug in the numbers they want to start with at one end and count up or down on the line as a visual tool to support them in solving addition or subtraction problems.

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Counting on- starting at one determined number on an open number line and counting up from that to find the answer. (Example: John has 12 books and Jane gives him 6 more, how many does John have now?

Fact families – a group of math facts using the same numbers
- o Example: 2+4=6 and 4+2=6 and 6-2=4 and 6-4=2

Commutative Property of Addition and Multiplication
Addition and Multiplication are known as **Commutative** because you can move the addends or multiples around in the equation and get the same sum or product.

Examples: 4 + 2 = 6 and 2 + 4 = 6 OR 4 x 2 = 8 and 2 x 4 = 8)
- o This is not true for subtraction or division. They do have the commutative property that allows you to move the numbers and get the same result.

Inverse Operations: are pairs of mathematical manipulations in which one operation undoes the action of another. For example, addition and subtraction are inverse operations, so are multiplication and division

Spatial Reasoning: The ability to visualize and manipulate objects (or shapes) in space, and to understanding how those objects/shapes move and relate to or with each other and our bodies. Understanding terms such as over, under, behind, as well as knowledge of left and right involve special reasoning skills.

Standardized Units of Measurement: Standard units are common units of measurement such as inches on a ruler, pounds or grams on a scale or ounces/liters of volume/measuring cups, etc.

Non-standard Units of Measurement: Anything used to measure or weigh an item that is not standardized is considered a non-standard unit of measurement. A pencil, an arm's length, feeling weight by hand, etc.

- o ***Why Use Non-Standard Measurement Activities?*** Non-standard units of measurement are used by young children when they first start leaning about how to measure size and weight. This allows children to focus on concepts of longer and shorter, heavier and lighter without having to read/consider the exact numbers on scales or rulers.

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Decomposing- A strategy for solving math problems that involves breaking down a number into its parts.
- o Example: We can decompose the number 10 into: 5+5, 2+8, 4+6, or 3+7. A child might also decompose the number 482 by place value: 4 hundreds, 8 tens and 2 ones.

Re-Grouping: In the place value column method of subtraction, regrouping or borrowing is a form of decomposing. When a bottom digit is greater than a top digit, we borrow a ten from the next column to the left, then mark the left column digit down by one.

Friendly Numbers- We refer to "Friendly" numbers as those that that are easier for our minds to manipulate and work with when solving math equations. For instance, multiples of 5s, 10s or 100s can be easier when trying to solve an equation.
- o Example: 27 + 9 can be mentally or visually represented on an open number line by creating a friendly number 30 by splitting the 9 into a 3 and a 6 to solve the problem)