Mathematical Language at OPS

**Purpose of this information: To build students’ understandings of mathematical words and concepts. To use the same language for mathematics across the school and at home.**

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| **4 processes**  http://www.enthuseeducation.net/siteimages/maths%20symbols.jpg | **Addition –** Finding the total, or sum, by combining two or more numbers.  **Subtraction –** Taking one number away from another, for example if you have 5 apples and you subtract 2, you are left with 3.  **Multiplication –** The basic idea for multiplication is repeated addition e.g. 5X3=5+5+5 =15  But as well as multiplying by whole numbers, we can also multiply by fractions, decimals and more.  **Division –** Splitting into equal parts of groups. It is the result of “fair sharing”. |
| **Algorithm** | A well-defined set of instructions designed to perform a particular task or solve a type of problem, such as determining which of two fractions is larger, bisecting an angle, or calculating the mean of a set of numbers. |
| **Automatic Recall** | Knowing facts ‘off by heart’ for fast response. |
| **Digits** | There are 10 of them. 0,1,2,3,4,5,6,7,8 and 9. |
| **Doubles/Near Doubles** | Twice as many or nearly twice as many. |
| **Extended (expanded) notation** | Writing a number to show the value of each digit. It is shown as a sum of each digit multiplied by its matching place value (ones, tens, hundreds). For example: 293 = 2X100 + 9X10 + 3 |
| **Equals**  http://www.affordablecebu.com/_ld/89/12873320.jpg | Exactly the same amount or value. For example, 1+1=2 and1 dollar is equal to 100 cents. |
| **Fractions** | Represents the division of one whole number by another. They are also used to indicate a part of a whole number. |
| **Integers** | They are whole numbers such as (0, 1, 2, 3), but also include negative numbers (-1, -2, -3). They can be positive, negative or zero. |
| **Natural numbers** | Natural numbers are simply the numbers 1, 2, 3, 4 etc. |
| **Number Lines** | A line on which numbers (integers, whole numbers, natural numbers, fractions) are marked. These lines can be used to model mathematical thinking. For example: counting on, counting back, addition, subtraction, etc. |
| **Numeral Identification** | Reading and writing numbers.  Hindu-Arabic number system: 0123456789 |
| **Number word sequences and patterns** | A list of numbers that follow a certain sequence or pattern. For example: 2, 4, 6, 8, 10, starts at 2 and jumps by 2 every time. |
| **Numerals** | The symbol for numbers, i.e. 4, 78, 632. They are all numerals! |
| **Ordering Numbers** | Numbers can be ordered in increasing (up/ascending) or decreasing (down/descending) in order of size (value). Can include whole numbers, fractions, decimals, etc. |
| **Partitioning** | Partitioning is a way of working out maths problems that involve large numbers by splitting them into smaller units so they’re easier to work with. For example 79+34=113 when partitioned is 70+30+9+4= 100+13=113 |
| **Place Value** | The value of a digit in a number and its corresponding column, e.g. ones, tens, hundredths, etc. |
| **Renaming** | In everyday use, numbers often need to be renamed in a variety of ways. A number such as 68 can be viewed as 6 tens and 8 ones. |
| **Structuring numbers** | The crucial development of mentally adding and subtracting that is, not counting to get answers, like when you know 5 and 5 is 10. |
| **Whole numbers** | Whole numbers are the natural numbers along with zero: for example 0, 1, 2, 3, 4 etc. |
| **Worded problems** | When a mathematical problem is asked through a question using a real life experience. |

