

## Glossary of Terms

**2-digit number** – a number with 2 digits like 23, 45, 12 or 60

**3-digit number** – a number with 3 digits like 123, 542, 903 or 561

**Addition facts** – knowing that  $1+1 = 2$  and  $1+3 = 4$  and  $2+5 = 7$ . Normally we only talk about number facts with totals of 20 and under.

**Array** - An array is an arrangement of a set of numbers or objects in rows and columns –it is mostly used to show how you can group objects for repeated addition or subtraction.

**Bead String/Bar** – a string with (usually 100) beads on, grouped by colour in tens. The bead string is a good bridge between a number track and a number line as it maintains the cardinality of the numbers whilst beginning to develop the concepts of counting ‘spaces’ rather than objects.

**Bridging** – when a calculation causes you to cross a ‘ten boundary’ or a ‘hundred boundary’ e.g.  $85 + 18$  will bridge 100.

**Compact vertical** – the name of the recommended written method for addition whereby the numbers are added in columns, 1s first then 10s and so on. Where the total exceeds 10, the ten 1s are exchanged for a 10 and written below the answer line. Sometimes referred to as ‘carrying’.

**Concrete apparatus** – objects to help children count and calculate– these are most often cubes (multilink) but can be anything they can hold and move including Cuisenaire rods, Dienes rods (hundreds, tens and units blocks), straws, Numicon, Place Value counters and much more.

**Count all** – when you add by counting all the items/objects e.g. to add 11 and 5 you would count out 11, then count out 5, then put them together and count them all to get **16**.

**Count on** – when you add (or sometimes subtract) by counting onwards from a given number. E.g. to add 11 and 5 you would count on 5 from 11 i.e. 12, 13, 14, 15, **16**

**Decimal number** – a number with a decimal point e.g. 2.34 (said as two point three four)

**Decomposition** – the name of the recommended written method for subtraction whereby the smaller number is subtracted from the larger, 1s first then 10s and so on. Where the subtraction cannot be completed as the second number is larger than the first, a 10 is exchanged for ten 1s to facilitate this. This is the traditional ‘borrowing’ form of column method, which is different to the ‘payback’ method.

**Dienes Rods (or Base 10)** – this is a set of practical equipment that represents the numbers to help children with place value and calculation. The Dienes rods show 1s, 10s, 100s and 1000s as blocks of cubes that children can then combine. Dienes rods do not break up so the child has to ‘exchange’ them for smaller or larger blocks where necessary.

**Difference** – the gap between numbers that is found by subtraction e.g.  $7-5$  can be read as ‘7 take away 5’ or as the ‘difference between 7 and 5’

**Dividend** – the number being divided in a calculation

**Divisor** – the smaller number in a division calculation.

**Double** – multiply a number by 2

**Efficient Methods** – the method(s) that will solve the calculation most rapidly and easily

**Equals** - is worth the same as (be careful not to emphasise the use of = to show the answer)

**Exchanging** – Swapping a '10' for ten '1s' or a '100' for ten '10s' or vice versa (used in addition and subtraction when 'moving' 'ten' or a 'hundred' from its column into the next column and splitting it up). Heavily relied upon for addition and subtraction of larger numbers. Skills in this can be built up practically with objects, then Dienes rods/base 10, then place value counters before relying on a solely written method.

**Expanded Multiplication** – a method for multiplication where each stage is written down and then added up at the end in a column

**Factor** – a number that divides exactly into another number, without remainder

**Grid method** – a method for multiplying two numbers together involving partitioning and multiplying each piece separately.

**Grouping** – an approach to division where the dividend is split into groups of the size of the divisor and the number of groups created are then counted.

**Half** - a number, shape or quantity divided into 2 equal parts

**Halve** – divide a number by 2

**Integer** - a whole number (i.e. one with no decimal point)

**Inverse** – the opposite operation. For example, addition is the inverse of subtraction and multiplication is the inverse of division.

**Known Multiplication Facts** – times tables and other number facts that can be recalled quickly to support with larger or related calculations e.g. if you know  $4 \times 7$  then you also know  $40 \times 7$ ,  $4 \times 70$ ,  $4 \times 0.7$  etc.

**Long Division** – formal written of division where the remainders are calculated in writing each time (extended version of short division)

**Long Multiplication** – formal written method of column multiplication

**Multiple** - a number which is an exact product of another number i.e. a number which is in the times table of another number

**Number bonds** – 2 numbers that add together to make a given total, e.g. 8 and 2 bond to 10 or 73 and 27 bond to 100

**Number line** – a line either with numbers or without (a blank numberline).

The number line emphasises the continuous nature of numbers and the existence of 'in-between' numbers that are not whole. It is based around the gaps between numbers.

Children use this tool to help them count on or count back for addition or subtraction. As they get older, children will count in 'jumps' on a number line e.g. to add 142 to a number they may 'jump' 100 and then 40 and then 2. The number line is sometimes used in multiplication and division but can be time consuming.

**Number track** – a sequence of numbers, each inside its own square. It is a simplified version of the number line that emphasises the whole numbers.

**Numicon** – practical maths equipment that teaches children the names and values of numbers 1-10 initially but then helps them with early addition, subtraction, multiplication and division. Numicon is useful for showing the real value of a number practically.

**One-Step Calculation** – a calculation involving only one operation e.g. addition. Usually the child must decide what that operation is.

**Partition** – split up a larger number into parts, such as the hundreds, tens and ones e.g. 342 can be partitioned into 300 and 40 and 2

**Place Value** – the value of a digit created by its position in a number e.g. 3 represents thirty in 234 but three thousand in 3567

**Recombine** – for addition, once you have partitioned numbers into hundreds, tens and units then you have to add the hundreds together, then add the tens to that total, then add the ones to that total

**Remainder** – a whole number left over after a division calculation

**Repeated addition** – repeatedly adding groups of the same size for multiplication

**Scaling** – an approach to multiplication whereby the number is 'scaled up' by a factor of the multiplier e.g.  $4 \times 3$  means 4 scaled up by a factor of 3.

**Sharing** – an approach to division whereby the dividend is shared out into a given number of groups (like dealing cards)

**Short Division** - traditional method for division with a single digit divisor (this is a compact version of long division, sometimes called 'bus stop')

**Significant digit** – the digit in a number with the largest value e.g. in 34 the most significant digit is the 3, as it has a value of '30' and the '4' only has a value of '4'

**Single digit** – a number with only one digit. These are always less than 10.

**Sum** – the total of two or more numbers (it implies addition). Sum should not be used as a synonym for calculation.

**Two-step calculation** - a calculation where two different operations must be applied e.g. to find change in a shop you will usually have to add the individual prices and then subtract from the total amount. Usually the child has to decide what these two operations are and the order in which they should be applied.