Glossary

Term	Definition
Abstract	Existing in thought or as an idea rather than using a concrete or visual representation.
Algebraic expression	Algebraic expressions are built up from integer constants, variables (letters) and operations such as $4b - c$.
Algorithm	A step by step written procedure used to perform a calculation in an efficient way. These procedures are of particular use when a calculation is too complex to be performed mentally.
Array	A rectangular arrangement of objects used to represent a number in a way that illustrates multiplication and division. Objects are arranged in rows and columns.
Associative law	Addition and multiplication calculations can be grouped in any way e.g. $(2 + 3) + 7 = 2 + (3 + 7)$
Average	A number that expresses the central or typical value in a data set. The averages mean, median and mode can be used in different situations to best summarise the data.
Bar model	A pictorial representation of a problem or concept where bars or boxes are used to represent known and unknown quantities. Most often used to solve number problems with the 4 arithmetic operations.
Bias	A systematic built-in error in collecting data which makes can invalidate any conclusions drawn.
Cardinality	The number given to the total amount of items in a set where the items are counted in order. The last count word in the counting sequence represents the total number of items in the collection.
Chance	The likelihood that a certain event will occur.

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Commutative law	Changing the order of the numbers in addition or multiplication calculations does not affect the answer. e.g. 2 x 5 = 5 x 2
Composite number	A positive integer that can be divided exactly by whole numbers other than itself and 1.
Conceptual understanding	Knowing more than just isolated facts and procedures. It is hoped that if learners have a deep understanding of concepts, they will find it easier to transfer this knowledge into new or unknown situations and apply it to new contexts.
Concrete (materials)	Using everyday objects and learning materials such as counters, blocks, beads, to develop an understanding of numerical and mathematical concepts.
Consecutive numbers	Numbers that are next to one another in numerical order.
Conservation of number	Understanding that the quantity of items in a set does not change due to how they are arranged.
Continuous data	Data that is measured and can be any value within a range.
CPA	The acronym for **C**oncrete, **P**ictorial, **A**bstract, a system of learning that uses physical and visual aids to build a child's understanding of concepts. It is important to realise that these are not stages gone through once, but a continuum. There will be occasions when a particular child will use concrete, pictorial and abstract representations all in one activity/lesson.
Decimal fraction	A fraction where the denominator is any power of ten, such as 10, 100, 1000. It is written using a decimal point.
Denominator	The number of equal parts into which a whole is divided. This is denoted by the number on the bottom of a fraction.

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Digit	The symbols that are used to make numbers. In the decimal system, the digits 0 to 9 are used.
Discrete data	Data that can only take certain values.
Distributive law	Multiplying a number by a group of numbers added together is the same as doing each multiplication separately e.g. 3 x (2 + 4) = 3 x 2 + 3 x 4
Double facts	It is useful for doubles to become known facts to help with mental calculation.
Empty number line	A number line which can have any starting number. It can be used to add or subtract in steps that the learner finds comfortable. It can also be used for multiplication and division.
Equation	A statement that means that two expressions are equal in value, such as $4c + 3 = 2c - 5$.
Even number	An integer that, when divided by 2, will give another integer.
Fraction	A fraction has the form $\dfrac{a}{b}$ where a and b are positive integers. The integer b is the **denominator** and is the number of equal parts into which a whole is divided. The integer a is the **numerator** and is the number of those equal parts that are included.
Grouping	In the context of division, grouping is splitting a quantity into groups of a given size e.g. splitting 12 counters into groups of 3 (there are 4 groups).
Integer	A number that can be written with no fractional part e.g. 8, 0, -3.
Near doubles	'Doubles facts' can be used to find the solutions to near double calculations such as 8 + 7.
Negative numbers	Numbers which are less than zero.

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Number bonds	The pairs of numbers which add together to make a particular number e.g. 1 + 9, 2 + 8 are number bonds to 10. It is useful to learn these facts to help with quick mental calculations.
Number families	Related number facts such as 6 + 4 = 10, 4 + 6 = 10, 10 − 4 = 6, 10 − 6 = 4.
Number identification	When shown a number, say which number it is e.g. what number is this?
Number recognition	In a group of numbers, find the requested number e.g. where is the 3?
Odd number	An integer that, when divided by 2, will leave a remainder of 1.
One to one correspondence	When counting, each object must be counted only once and as the number name is identified.
Order of operations	Calculations within brackets should be carried out first, followed by any calculation of powers or roots. Multiplications and divisions would be carried out next, followed by additions and subtractions.
Ordinal numbers	These describe a position in an ordered set e.g. first, sixth.
Part-part-whole	The process of splitting numbers into parts, such as splitting 8 into 6 and 2. This allows learners to see the relationship between a number and its component parts. This can result in learners making connections between addition and subtraction.
Partitioning	To split a number into its component parts. This is useful when performing mental calculations. It is important to partition numbers in a variety of ways, not simply into tens and ones.
Percentage	Percent means parts per 100. The symbol used is %.
Pictorial (representations)	Visual diagrams such as dots, number lines and grids to develop an understanding of numerical and mathematical concepts.
Place value	The relative value of different digits within a number. It is the position of a digit within a number that determines what value that digit represents. The use of zero as an empty place value holder is important.

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Prime number	A positive integer that can only be divided exactly by itself and 1. 1 is not a prime number.
Product	The result of multiplying two or more numbers together.
Qualitative (data)	Descriptive information.
Quantitative (data)	Numerical information.
Real number	A value of a continuous quantity that can represent a distance along a line. Real numbers include all fractions and numbers such as π, that cannot be written as fractions.
Remainder	The amount left over when a quantity cannot be divided exactly.
Robust information	Information that has been gathered and presented in an appropriate way.
Sample	A selection taken from a larger group (the population) so that you can examine it to find out something about the larger group.
Subitising	Recognising a quantity without counting.
Sharing	In the context of division, sharing is splitting a quantity into a number of equal shares e.g. sharing 12 counters amongst 4 people to get 4 equal shares (of 3).
Sum	The result of adding two or more numbers.
Vague information	Information which is presented without sufficient detail.
Whole numbers	The set of numbers that includes zero and the positive integers.