

Help at Home

Numeracy and Maths jargon buster

Addition - Finding the total of more than one amount. Addition is the inverse operation of subtraction.

Acute angle - An angle greater than 0° and less than 90° .

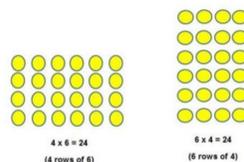
Algebra - The use of letters and numbers to express mathematical information.

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. There are standard written methods for performing addition, subtraction, multiplication and division calculations.

Approximate/Approximation - To give a "rough" answer that is slightly more or slightly less than the actual answer.

Area - The measure of the flat space enclosed by a given boundary. Area can be measured using non-standard and standard units, but is usually measured in square units such as square centimetres (cm^2) and square metres (m^2).

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.



Backwards number word sequences (BNWS) -

A regular sequence of number words backward, typically but not necessarily by ones, for example, the BNWS from ten to one, the BNWS from eighty-two to seventy-five, the BNWS by tens from eighty-three.

Bar modelling - Visual representation of a number using cubes, objects, columns etc.

Breadth - How broad something is from side to side.

Capacity - The maximum amount of space inside an object or container. Capacity is usually measured in millilitres (ml) or litres (l). There are 1000 millilitres in a litre.

Circumference - The distance around the edge of a circle.

Common denominator - When two or more fractions have the same denominator they have a common denominator. E.g. The factors of 12 are 1, 2, 3, 4, 6 and 12.

Common factor - If numbers share one or more factors, then they are called the common factors of those numbers.

Common multiple - A number that is a multiple common to two or more numbers. E.g. The multiples of 2 are 2, 4, 6, 8, 10, 12, 14, 16, ...

Compensation strategy - A strategy that involves first changing a number to make an easier calculation, then compensating for the change. E.g. $34+49$ becomes $35+50$.

Concrete materials - Hands-on materials as opposed to pictures, numbers or words.

Consecutive number - Numbers that are next to one another in numerical order e.g. 12, 13.

Counting back from - A strategy used by children to solve Removed Items tasks, for example 11 remove 3 – "eleven, ten, nine – eight". Also referred to as counting-off-from or counting-down-from.

Counting back to - Regarded as the most advanced of the counting-by-ones strategies. E.g. have 11, remove some, and there are eight left – "eleven, ten, nine – three". Also referred to as counting-back-to.

Counting by ones - Initial or advanced arithmetical strategies which involve counting-by-ones only. Examples of initial count-by-one strategies would be perceptual and figurative counting which involve **counting-from-one**. Examples of advanced count-by-one strategies would be counting on, counting back and counting-down-to.

Counting on - An advanced counting-by-ones strategy used to solve additive tasks or missing addend tasks involving two hidden collections. Can also be referred to as counting-up.

Counting up from - An advanced counting-by-ones strategy used to solve additive tasks involving two hidden collections.

Counting up to - An advanced counting-by-ones strategy used to solve missing addend tasks.

Cubic numbers - When a whole number is multiplied by itself once, and then again, the result is a cubic number. This process is called cubing a number. It results in the number being cubed. To indicate this process, a power of 3 is used. E.g. $2^3 = 2 \times 2 \times 2 = 8$.

Decimal point - A point or dot used to separate the whole number part from the fractional part of a number. Numbers to the left of the decimal point are whole numbers.

Decuple - A multiple of ten.

Denominator—The bottom number in a written fraction, representing the number of parts into which the whole has been divided.

Difference—Subtraction as comparison: the difference between 6 and 2 is 4.

Digit - The symbols that are used to make numbers. In the decimal system, the digits 0 to 9 are used.

Division - Sharing a quantity into a number of equal shares. Splitting a quantity into groups of an equal size. Division is the inverse operation of multiplication.

Double facts - Sharing a quantity into a number of equal shares. Splitting a quantity into groups of an equal size.

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.

Estimation - A reasonable guess. Estimation can be used to predict solutions and check the accuracy of calculations. For example, estimating $317 + 498$ as approximately $300 + 500 = 800$ and then comparing the estimate to the actual solution.

Equivalence - The similarity or sameness: having the same numerical value. $3+2=1+4$

Equivalent fractions - Fractions which have equal value are known as equivalent fractions. Diagrams are helpful in finding families of equivalent fractions. E.g. $1/2 = 2/4 = 4/8$

Equivalence of fractions, decimal fractions and percentages - Fractions, decimal fractions and percentages can be used interchangeably. Equivalence of commonly used fractions, decimal fractions and percentages are very useful to know. E.g, $1/2 = 0.5 = 50\%$

Equal sharing - The early stages in learning about division and fractions involve sharing out a number of objects fairly (into equal shares). There will be situations where this is not possible, where some objects will be left over.

Even number - An number that, when divided by 2, will give another whole number.

Factor - A number is a factor if it divides exactly into another number e.g. The factors of 50 are 1, 2, 5, 10, 25 and 50.

Finger patterns - Arrangements of fingers used by children when calculating.

Forward number word sequence FNWS - A regular sequence of number words forward, typically but not necessarily by ones, e.g. the FNWS from one to twenty, the FNWS from eighty-one to ninety-three, the FNWS by tens from twenty-four.

Fraction - A fraction has the form 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.

'Friendly' numbers - Two numbers that are related to each other in a way that makes a calculation particularly easy ($457-257$); often a calculation can be made easier by replacing one of the numbers with a more friendly number close to it and then compensating later.

Greater than - The symbol $>$ means greater than.

Grouping - The early stages in learning about division and fractions involve splitting a number of objects into groups of particular size. There may be situations where this is not possible, where some objects will be left over.

Height - How tall something is from its base to its top. The vertical distance between the top and the bottom of an object.

Improper Fraction - A fraction where the numerator is greater than the denominator. E.g. $8/5$

Length - How long something is from end to end. The distance from one point to another. Distance is usually measured in millimetres (mm), centimetres (cm), metres (m) or kilometres (km). There are 10 millimetres in a centimetre, 100 centimetres in a metre and 1000 metres in a kilometre.

Less than - The symbol $<$ means less than.

Mass - The amount of matter in an object. In everyday language, the term Weight is used. Mass is usually measured in grams (g) and kilograms (kg). There are 1000 grams in a kilogram.

Multiple - The product of any quantity and a number.

Multiplication - Multiplication involving whole numbers can be thought of as repeated addition. Multiplication is the inverse operation of division e.g. 4×3 is 4 lots of 3 or $3 + 3 + 3 + 3$.

Near doubles - Doubles facts can be used to find the solutions to near double calculations. E.g. Double 8 is 16 so $8 + 7$ is one less, 15.

Negative numbers - Numbers which are less than zero.

Number bonds or number stories - The pairs of number which add together to make a particular number. It is useful to learn these facts to help with quick mental calculations. E.g. The number bonds for 10 are $1+9$, $2+8$, $3+7$, $4+6$ and $5+5$.

Number line - A straight line in which points on the line are used to represent numbers, emphasising particularly the order of numbers and their positions in relation to each other.

Number sentence - A written calculation e.g. $3+5=8$, $10 \times 7=70$

Number Word - Number words are spoken and heard names for numbers e.g. 8 is said "eight", 209 is said as "two hundred and nine"

Numeral - Numerals are symbols for numbers e.g. '5' and '27'.

Numeral identification - Stating the name of a displayed numeral. The term is used similarly to the term "letter identification" in early literacy.

Numerator - The top part of a written fraction, representing the number of equal parts taken from a whole.

Numeral recognition - Selecting a nominated numeral from a randomly arranged group of numerals.

Odd number - An integer that, when divided by 2, will leave a remainder of 1.

Ones - An interchangeable term with units. see 'Units'

One-to-one correspondence - When counting, each object must be counted only once and as the number name is identified.

Operators - These are symbols that are part of the universal language of mathematics. The four operators $+$, $-$, \times , \div are the first set of symbols that learners usually become familiar with.

Partitioning - To split a number into its component parts. This is useful when performing mental calculations e.g. 16 can be partitioned into 10 and 6

Percentage - Percent means parts per 100. The symbol used is %.

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. E.g. 238 is made up of 2 hundreds, 3 tens and 8 ones.

Prime number - A positive number that can only be divided exactly by itself and 1. 1 is not a prime number. E.g. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29.

Proper fraction - A fraction where the numerator is less than the denominator. E.g. $\frac{3}{8}$

Radius of a circle - The distance from the edge of a circle to its centre. The radius is half the length of the diameter

Rekenrek - An abacus-like instructional device consisting of two rows of 10 beads. In each row the beads appear in two groups of five, using two different colours for the beads.

Remainder - The amount left over when a quantity cannot be divided exactly. E.g. $17 \div 5$ is 3 remainder 2.

Help at Home

Rounding - To change a number to a more convenient form; transforming an answer that is not an exact whole number into a whole number, either the whole number above (rounding up) or the one below (rounding down).

Sequence - A list of numbers that are linked by a rule. Learners should be able to spot simple patterns to continue a sequence. E.g. 3, 6, 12, 24, ... The numbers double

Seriation - Seriation is an element of logical thinking which involves arranging objects in order of size, location or position.

Square numbers - When a whole number is multiplied by itself the result is a square number. This process is called squaring a number. It results in the number being squared. To indicate this process, a power of 2 is used e.g. $2^2 = 2 \times 2 = 4$.

Strategy - A generic label for a method by which a child solves a task, e.g. counting from one, or adding through ten.

Subitising - Recognising a quantity without counting.

Subtraction - Counting back from a given number, an efficient strategy when subtracting a small amount. Finding the difference between two numbers, an efficient strategy when subtracting a number from a similar number. Subtraction is the inverse operation of addition

Sum - The result of adding two or more numbers.

Units - In place value, units is another name for ones. The units column is the ones column.

Volume - The measure of space taken up by a three dimensional object. Volume is usually measured in cubic units such as cubic centimetres(cm^3) and cubic metres (m^3). Capacity and Volume are linked and 1 cm^3 of space has the capacity 1 ml.

Ratio - A ratio shows the relative sizes of two or more quantities and describes how these quantities are related. A ratio can be expressed in words or by using a colon. E.g. 2:1.

Rounding - The process of giving an approximation of an actual answer to a suitable degree of accuracy.

Width - How wide something is from side to side.