Mathematics Vocabulary List

This document sets out Key Stage 1 (KS1) and Key Stage 2 (KS2) Maths vocabulary which is taught under the new National Curriculum. The key stage in brackets is a rough guide for when this vocabulary is introduced. Within classrooms, key vocabulary is displayed on Maths Working Walls at appropriate times during the year and the use of this vocabulary is promoted through mathematical talk and reasoning opportunities in lessons.

Vocabulary	**Definition**
2D (KS1)	2-dimensional – the shape lies on a plane (it is flat).
3D (KS1)	3-dimensional – the shape occupies space (it is not flat)./
Acute angle (KS2)	An angle between 0^{o} and 90^{o}.
Addition (KS1)	The process of calculating the total of two or more numbers or amounts. The result of the addition is called the sum or total. The operation is denoted by the + sign.
Algebra (KS2)	Letters are used to denote variables and unknown numbers. For example, 5 + a = 8 where a = 3.
Analogue clock (KS1)	A clock usually with 12 equal divisions to show the hours. Each of these divisions is subdivided into 5 equal parts, creating 60 minor divisions to represent minutes. The clock has two hands (minute and hour) that rotate about the centre.

Angle (KS1)	An angle is a measure of rotation between two intersecting lines of surfaces. Angles are measured in degrees (°).
Angle at a point (KS2)	The complete angle all the way around a point is 360°.
Angle on a straight line (KS2)	The sum of the angles at a point on a line is 180°.
Anticlockwise (KS1)	In the opposite direction from the normal direction of travel of the hands of an analogue clock.
Approximation (KS2)	A number or result that is not exact but it is sufficiently close to the actual number for it to be useful. When two values are approximately equal, the sign ≈ is used.
Area (KS2)	A measure of the size of any plane surface (the inside of a shape). Area is usually measured in square units e.g. cm^2 or m^2.
Array (KS1)	An ordered collection of counters, numbers etc. in rows or columns.
Associative (KS1)	Numbers can be added or multiplied in any order and the answer will be the same. E.g. a + (b + c) = (a + b) + c and a x (b x c) = (a x b) x c Subtraction and division are not associative as the order that they are completed in matters.
Average (KS2)	A number expressing the central or typical value in a set of data. This links to the mode, median or mean.

Axis (KS2)	A fixed, reference line on a graph along which or from distances or angles are taken.
Bar chart (KS1)	A way of representing statistical information. Bars are used to represent different frequencies. The bars can be vertical or horizontal. This is also sometimes called a bar graph.
Brackets (KS2)	Symbols used to group numbers in arithmetic or letters and numbers in algebra. The brackets show that the operations within it have priority and should be completed first.
Capacity (KS1)	The volume of a material (typically liquid or air) help in a vessel or container. Units for capacity can include litres (l), millilitres (ml), cubic centimetres (cm^3) and cubic metres (m^3).
Carroll diagram (KS1)	A sorting diagram in which numbers or objects are classified as having a certain property or not having that property.
Centi- (KS1)	Prefix meaning one-hundredth (of).
Centilitre (KS2)	A unit of capacity or volume that is equivalent to one-hundredth of a litre. The symbol for centilitre is cl.
Centimetre (KS1)	A unit of measure that is equivalent to one-hundredth of a metre. The symbol for centimetre is cm.
Centre (KS2)	The middle point of a line or a circle.
Chart (KS1)	Another word for a table or graph.
Circle (KS1)	A 2D shape where all points are at a fixed distance from the centre.
Circumference (KS2)	The distance around a circle (perimeter).

Clockwise (KS1)	In the direction that the hands follow on an analogue clock.
Column addition or subtraction (KS1)	A formal, written method of setting out an addition or subtraction using place value columns.
Common factor (KS2)	A number which is a factor of two of more numbers. E.g. 2 is a common factor of 4 and 10.
Common multiple (KS2)	A number which is a multiple of two or more numbers. E.g. 18 is a common multiple of 2, 3, 6 and 9.
Commutative (KS1)	Additions and multiplications will result in the same answer whichever way it is completed. E.g. 4 + 5 = 9 and 5 + 4 = 9. Also 3 x 8 = 24 and 8 x 3 = 24.
Compasses (pair of) (KS2)	A mathematical instrument used to construct a circle or circular arc.
Composite shape (KS1)	A shape formed by combining two or more shapes.
Concrete objects (KS1)	Objects that can be handled and manipulated to support the children's understanding. E.g. Numicon and Dienes.
Cone (KS1)	A 3D shape with a circular base and a face which joins the circular base to a point.
Conjecture (KS1)	An educated guess when the result is not yet found.
Consecutive (KS1)	Following in order. E.g. 8, 9, 10 are consecutive numbers and 10, 15, 20 are consecutive multiples of 5.
Continuous data (KS1)	Data which can take any range of values (e.g. lengths of arm span, weight of stones).

Convert (KS2)	Changing from one quantity to another e.g. changing from centimetres to metres.
Coordinate (KS2)	A system which uses one or more numbers, or coordinates, to determine the position of a point in space.
Corner (KS1)	A point where two or more lines meet. More correctly called a vertex.
Cube (KS1)	A 3D shape with six identical, square faces. Connecting edges and faces are at right angles.
Cube number (KS2)	A number that is the product of three equal numbers. E.g. 27 is a cube number as 3 x 3 x 3 = 27, 8 is a cube number as 2 x 2 x 2 = 8
Cubic centimetre (KS2)	A unit of volume (cm^2).
Cubic metre (KS2)	A unit of volume (m^2).
Cuboid (KS1)	A 3D shape with six rectangular faces.
Cylinder (KS1)	A 3D shape with two circular faces and a curved face which joins these.
Data (KS1)	Numerical information which can relate to counts or measurements.
Decimal (KS2)	A number that includes tenths, hundredths or thousandths. The decimal point is placed to the right of the ones column and any digits that follow the decimal point is a decimal place.
Degree (KS2)	Unit of measurement for angles. One whole turn is 360^o.
Denominator (KS2)	The number that is written below the line of the fraction.

Diagonal (KS2)	The joining of two vertices on a shape that are not next to each other.
Diagram (KS1)	A picture, a geometric figure or a representation.
Diameter (KS2)	The length across a circle that passes through the centre.
Difference (KS1)	The numerical difference between two numbers. E.g. the difference between 8 and 3 is 5.
Digit (KS1)	The symbols of the number system. E.g. 45 is a 2-digit number.
Digital clock (KS1)	A clock that displays the time as hours and minutes passed, usually since midnight.
Direction (KS1)	The orientation of a line in space. E.g. north, south, left, down.
Divide (KS1)	Carrying out the operation of division.
Dividend (KS1)	The number that is divided. E.g. 30 ÷ 5, 30 is the dividend.
Divisible by (KS2)	When a number can be divided by another with no remainder. E.g. 64 is divisible by 8 as 64 ÷ 8 = 8.
Division (KS1)	The number to be divided is shared equally into the stated number of parts.
Divisor (KS2)	The number that is divided by. E.g. 30 ÷ 5, 5 is the divisor.
Dodecahedron (KS2)	A shape with twelve faces. All of the faces are regular pentagons.

Double (KS1)	Multiply by 2.
Edge (KS1)	A line joining two vertices of a figure e.g. a cuboid has 12 edges.
Equal (KS1)	Having the same value as. Symbol: =.
Equivalent (KS1)	Equal to.
Equivalent fractions (KS1)	Fractions that have the same value as another. E.g. 3/9 is an equivalent fraction to 1/3.
Estimate (KS2)	Making a rough or approximate answer.
Even number (KS1)	An integer that is divisible by 2.
Exchange (KS2)	Changing a number for another of an equal value e.g. 13 ones is the same as 1 ten and 3 ones. This often happens in column addition, subtraction and multiplication and in short division.
Face (KS1)	One of the flat surfaces of a solid shape. E.g. a cube has six faces.
Factor (KS2)	Numbers that can be multiplied by another number to create a final number. E.g. factors of 12 are 1, 2, 3, 4, 6 and 12 because 12 = 1 x 12 = 2 x 6 = 3 x 4.
Formula (KS2)	An equation that links sets of variables. E.g. the formula for finding the area is base x height.
Fraction (KS1)	The result of dividing one number by a second number, which must be non-zero. The dividend is the numerator and the divisor is the denominator.
Frequency (KS1)	The number of times something occurs.

Gram (KS1)	A unit of mass equal to one thousandth of a kilogram. Symbol: g.
Graph (KS2)	A diagram that shows a relationship between variables.
Heptagon (KS2)	A polygon with seven sides and seven corners.
Hexagon (KS2)	A polygon with six sides and six corners.
Horizontal (KS2)	Parallel to the horizon.
Hour (KS1)	A unit of time. There are 60 minutes in an hour and 24 hours in a day.
Hundred square (KS1)	A 10 by 10 square grid with the numbers 1 to 100.
Imperial unit (KS2)	A unit of measurement used historically in the UK e.g. inch, foot, ounce, pound, pint.
Improper fraction (KS2)	The numerator is greater than the denominator in the fraction.
Inequality (KS1)	When one number, or quantity, is not equal to another.
Infinite (KS1)	Going on forever when referring to a sequence or a set.
Integer (KS2)	Any positive or negative whole number and zero.
Interpret (KS2)	Identifying the key mathematical features of a graph, chain of reasoning etc.
Inverse operations (KS1)	Operations that are the opposite of each other. E.g. addition and subtraction, multiplication and division.
Isosceles triangle (KS2)	A triangle in which two sides and two angles are equal.
Kilo- (KS2)	Prefix denoting one thousand.

Kilogram (KS2)	Unit of mass. Symbol: kg. 1kg = 1000g.
Kilometre (KS2)	A unit of length. Symbol: km. 1km = 1000m.
Kite (KS1)	A quadrilateral with two pairs of equal, adjacent sides.
Length (KS1)	The distance between two points.
Line graph (KS2)	A graph where points are joined by straight lines.
Litre (KS1)	A unit of volume or capacity. Symbol: l.
Mean (KS2)	Synonymous to average. The sum of discrete data divided by the number of quantities.
Measure (KS1)	To find the size.
Median (KS2)	The middle number or value when all values in a set of data are arranged in ascending order.
Mental calculation (KS1)	Calculations that are largely carried out in your head.
Metre (KS1)	Unit of length. Symbol: m.
Metric unit (KS2)	Unit of measurement in the metric system. These include metres, centimetres, gram, kilogram and litre amongst others.
Mile (KS2)	An imperial measure of length. 5 miles is approximately 8 kilometres.
Milli- (KS2)	Prefix for one-thousandth.
Millilitre (KS2)	One thousandth of a litre. Symbol: ml.

Millimetre (KS2)	One thousandth of a metre. Symbol: mm
Minus (KS1)	A name for the symbol -, representing the operation of subtraction.
Minute (KS1)	Unit of time. 1 minute = 60 seconds. 60 minutes = 1 hour.
Missing number problems (KS1)	A type of problem. E.g. 6 = __ - 8.
Mixed number (KS2)	A whole number and a fractional part (which is expressed as a common fraction.)
Mode (KS2)	The most commonly occurring value in a set of data.
Multiple (KS1)	Numbers in a multiplication table are multiples of that times table. E.g. multiples of 3 include 9, 15 and 30.
Multiplication (KS1)	Mathematical operation of scaling one number by another. Symbol: x.
Multiply (KS1)	To carry out the process of multiplication.
Negative number (KS2)	A number less than 0. E.g. -1, -2, -3. These are commonly read as minus or negative 1.
Net (KS2)	A 2D figure composed of polygons which can be folded and joined to form a 3D shape.
Number bond (KS1)	A pair of numbers with a particular total. E.g. Number bonds of 10 are all pairs of numbers with a total of 10.
Number line (KS1)	A line where numbers are represented by points upon it.
Number sentence (KS1)	A mathematical sentence involving numbers. E.g. 7 – 2 = 5 and 7 > 3.

Numeral (KS1)	A symbol used to denote a number.
Numerator (KS2)	The number above the line in the fraction.
Oblong (KS1)	Used to describe a non-square rectangle.
Obtuse angle (KS2)	An angle greater than 90° but less than 180°.
Octagon (KS1)	A polygon with eight sides.
Octahedron (KS2)	A polyhedron with eight faces.
Odd number (KS1)	An integer that has a remainder of 1 when divided by 2.
Order of operation (KS2)	The order in which different mathematical operations are applied in a calculation. B – brackets I – indices D – division M – multiplication A – addition S – subtraction
Ordinal number (KS1)	A term that describes a position within an ordered set. E.g. first, second etc.
Parallel (KS2)	Two lines which are equidistant (they will never meet).
Parallelogram (KS2)	A quadrilateral whose opposite sides are parallel and consequently equal in length.

Partition (KS1)	To split a number into component parts. E.g. 28 can be partitioned into 20 + 8 or 14 + 14.
Pattern (KS1)	A systematic arrangement of numbers, shapes or other elements according to a rule.
Pentagon (KS1)	A polygon with five sides.
Percentage (KS2)	A fraction expressed as the number of parts per hundred using the notation %.
Perimeter (KS2)	The length of the boundary of a closed figure.
Perpendicular (KS2)	A line or plane that is at right angles to another line or plane.
Pictogram (KS1)	A format for representing statistical information using pictures, symbols or icons to represent objects.
Pictorial representations (KS1)	Using pictures to represent the structure of a mathematical concept to support understanding.
Pie chart (KS2)	A way of presenting statistical data. Within a circle, the 'slices' represent the quantities involved.
Place holder (KS2)	The zero numeral used to denote the absence of a particular power of 10.
Place value (KS1)	The value of a digit that relates to its position or place in a number.
Plot (KS2)	The process of marking points. These are usually defined by coordinates and plotted onto a coordinate grid.
Plus (KS1)	A name for the symbol +, representing the operation of addition.
Polygon (KS1)	A closed plane figure bounded by straight lines (a shape with straight lines).

Polyhedron (KS2)	A closed solid figure bounded by faces that are polygons.
Positive number (KS2)	A number that is greater than zero.
Pound sterling (KS1)	A unit of money. Symbol: £. £1 = 100 pence.
Prime factor (KS2)	The factors of a number that are prime.
Prime number (KS2)	A whole number greater than 1 that has exactly two factors (itself and 1).
Prism (KS1)	A 3D shape bounded by two identical polygons and rectangles. Prisms are named according to the base e.g. triangular prism has two triangular faces and three rectangular faces.
Product (KS1)	The result of multiplying one number by another.
Proper fraction (KS2)	A fraction where the numerator is less than the denominator.
Property (KS1)	Any attribute. E.g. one property of a square is that all sides are equal.
Proportion (KS2)	A part to whole comparison. E.g. Where £20 is shared between two people in the ratio 3:5, the first receives £7.50 which is 3/8 of the whole £20. The is his proportion of the whole.
Protractor (KS2)	An instrument for measuring angles.
Pyramid (KS1)	A 3D shape with a polygon as a base and one other vertex. Each vertex of the base is joined to the apex by an edge.
Quadrant (KS2)	One of the four regions into which a plane is divided by the x and y axes.

Quadrilateral (KS1)	A polygon with four sides.
Quantity (KS1)	Something that has a numerical value.
Quarter turn (KS1)	A rotation through 90^{o}.
Radius (KS2)	In relation to a circle, the distance from the centre to any point on the circle.
Ratio (KS2)	A part to part comparison. The ratio of a to b is usually written a:b.
Rectangle (KS1)	A parallelogram with an interior angle of 90^{o}. Opposite sides are equal.
Recurring decimal (KS2)	A decimal number with an infinitely repeating digit or group of digits.
Reflection (KS2)	In 2D, a transformation of the whole place involving a mirror line or axis of symmetry in the plane.
Reflective symmetry (KS2)	A 2D shape has reflection symmetry about a line if an identical-looking object in the same position is produced by reflection in that line.
Reflex angle (KS2)	An angle that is greater than 180^{o} but less than 360^{o}.
Regular (KS2)	When describing a polygon, all sides and internal angles are equal.
Remainder (KS2)	In the context of division, the amount remaining after the operation. E.g. 29 divided by 7 = 4 remainder 1.
Repeated addition (KS1)	The process of repeatedly adding the same amount. This can be one model for multiplication.

Repeated subtraction (KS1)	The process of repeatedly subtracting the same amount. This can be one model for division.
Rhombus (KS2)	A parallelogram with all sides equal.
Right angle (KS2)	One quarter of a complete turn. An angle of 90°.
Roman numerals (KS2)	The Romans used the following capital letters to denote cardinal numbers: I – 1, V – 5, X – 10, L – 50, C – 100, D – 500 and M – 1000. Numbers are formed by putting the letters together that make up that number. If a smaller number comes before a larger number, the smaller number is subtracted from the larger number.
Rotation (KS1)	In 2D, a transformation of the whole plane which turns about a fixed point.
Rotation symmetry (KS2)	A 2D shape has rotation symmetry about a point if an identical-looking shape in the same position is produced by a rotation through some angle greater than 0° and less than 360° about that point.
Round (KS2)	Express a number to a required degree of accuracy.
Scale (KS2)	To enlarge or reduce a number, quantity or measurement by a given amount.
Scalene triangle (KS2)	A triangle with no two sides equal and no two angles equal.
Second (KS1)	Unit of time. 60 seconds = 1 minute.
Sequence (KS1)	A succession of terms formed according to a rule.
Share (KS1)	One model for the process of division.
Side (KS1)	An edge of a shape.

Sign (KS1)	A symbol used to denote an operation.
Simplify (a fraction) (KS2)	Reduce a fraction to its simplest form.
Square (KS1)	A quadrilateral with four equal sides and four right angles.
Square centimetre (KS2)	A unit of area: a square measuring 1cm by 1cm. Symbol: cm^2.
Square metre (KS2)	A unit of area: a square measuring 1m by 1m. Symbol: m^2.
Square number (KS2)	A number that can be expressed as the product of two equal numbers. E.g. 36 is a square number as 6 x 6 = 36.
Subtract (KS1)	Carry out the process of subtraction.
Subtraction (KS1)	Finding the difference between two numbers. Take away. Symbol: -.
Sum (KS1)	The result of one or more additions.
Take away (KS1)	Subtract.
Tally (KS1)	Making marks to represent objects counted, usually by drawing vertical lines and crossing the fifth count with a horizontal or diagonal strike through.
Temperature (KS1)	A measure of warmth. Two measurements are ^{o}F (Fahrenheit) and ^{o}C (Centigrade).
Total (KS1)	The sum found by adding.
Translation (KS2)	A transformation in which every point of a body moves the same distance in the same direction.

Trapezium (KS2)	A quadrilateral with exactly one pair of parallel sides.
Triangle (KS1)	A polygon with three sides.
Turn (KS1)	A rotation about a point. A quarter turn is a rotation of 90°, a half turn is a rotation of 180° and a whole turn is a rotation of 360°.
Unit (KS1)	A standard used in measuring.
Unit fraction (KS1)	A fraction that has 1 as the numerator and whose denominator is a non-zero integer.
Venn diagram (KS2)	A visual diagram that is used to describe the relationships between two sets. Venn diagrams are created by overlapping circles.
Vertex (KS1)	The point at which two or more lines intersect.
Vertical (KS1)	At right angles to the horizontal plane.
Vertically opposite angles (KS2)	The pair of equal angles between two intersecting straight lines.
Volume (KS1)	A measure of 3-dimensional space. Usually measured in cubic units.
Zero (KS1)	Nought or nothing. Zero is the only number that is neither positive nor negative.