

**Crowle CE First School**

 **Mathematics Vocabulary List**

**Reception**

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| **Reception** |
| **Concept** | **Definition** | **Examples** |

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|  Above  | Used to describe a higher position than another object.  | The Maths Meetings board is **above** the sink.  |
| Add  | Carry out the process of addition.  | I can **add** two numbers together to find a total.  |
| Addition  | The operation to combine at least two numbers or quantities to form a further number or quantity, the sum or total. Addition is the inverse operation to subtraction.  | Three plus seven is equal to ten. This is an **addition** equation.  |
| Altogether  | In total.  | That will be £2 **altogether** please.  |
| Balance  | A measuring tool used to weigh objects. It has two dishes hanging on a bar. Both dishes will be level when the contents weigh the same. Also, as a verb, indicates equivalence and equality.  | The objects in the **balance** are unequal in weight because the dish on the right side is lower down that the dish on the left side. The two objects **balance** which means they have the same mass.  |
| Before  | In front of or prior to.  | The number ‘3’ comes **before** ‘5’ on the number line.  |
| Below  | Used to describe a lower position than another object.  | The sink is **below** the Maths Meetings board.  |
| Between  | Indicates a position in relation to two other places or objects on either side.  | The teacher is standing **between** two tables.  |
| Capacity  | The amount of liquid a container can hold.  | This cup is full to **capacity** because it cannot hold any more water.  |
| Circle  | The name of a 2-D shape. A circle has a curved side.  |  |
| Clock  | A tool used to measure time.  | The **clock** shows us that the time is now 2 o’clock.  |
| Compare  | Look for similarities and/or differences between at least two objects or sets.  | I can **compare** these two sets – this set has more.  |
| Corner  | A point where two or more lines meet. The correct mathematical term is vertex (vertices).  | The table has four corners (vertices).  |
| Cost  | A monetary value assigned to a good or service.  | This apple costs 10p. What coin could I use to pay for it?  |
| Count  | Assigning one number name to each of a set of objects to determine how many there are.  | I counted the children in the group – there are four so we will need four pencils.  |
| Cube  | A 3-D shape with six identical square faces.  |  |
| Cuboid  | A 3-D shape with six rectangular faces.  |  |
| Curved surface  | A non-plane surface of a 3-D shape. Both cones and cylinders have curved surfaces.  | The cone has a **curved** surface.  |
| Cylinder  | A 3-D shape with two circular faces joined by a curved surface.  |  |
| 2-D  | Abbreviation for two-dimensional. A figure is two-dimensional if it lies on a plane.  | A square is a **2-D** shape.  |
| 3-D  | Abbreviation for three-dimensional. A solid is three-dimensional and occupies space.  | A cylinder is a **3-D** shape.  |
| Describe  | To express mathematical features, qualities and details in words.  | Can you **describe** the properties of a cube?  |
| Difference  | The numerical difference between two numbers or sets of objects. It is found by comparing the quantity of one set of objects with another.  | The **difference** between ten and six is four.  |
| Direction  | The orientation of a line in space.  | Which **direction** should we jump – forwards or backwards?  |
| Distance  | A measure between two points or things.  | The **distance** between my house and the school is longer than that between the school and the train station.  |
| Double  | To multiply by two or add a value to itself.  | Ten is **double** five.  |
| Edge  | A line segment joining two vertices of a plane figure (2-D shape) and the intersection of two plane faces (in a 3-D shape).  | A triangle has three **edges** and a cube has 12 **edges**.  |
| Empty  | Containing nothing. Most commonly used in the context of measures.  | There is no more water left in the jug – it is **empty**.  |
| Equal  | Indicates equivalence between two values and can be expressed with the symbol ‘=’. The symbol is read as ‘is equal to’ which means the same as. Expressions on either side of the symbol have the same value. | My sets are **equal** because there are four bears in this set and there are four bears  |
| Face  | One of the plane surfaces of a solid shape.  | A cube has six **faces**.  |
| Fewer  | A lesser amount – used when counting discrete objects, i.e. countable objects such as, pens, teddies, counters, etc.  | There are **fewer** buttons on my coat than yours.  |
| First  | Comes before all others in time or position.  | **First** I brush my teeth. Then I go to bed.  |
| Flat  | A level surface.  | The table has a **flat** rectangular surface.  |
| Full  | Contains/holds as much or as many as possible; has no empty space.  | The juice carton is not **full** because I drank some.  |
| Group  | To make equal size groups. This is one model for division.  | I will **group** the crayons equally so that each person gets two.  |
| Half  | One of two equal parts of a shape, quantity or object.  | I have shared the dolls into two equal groups – I have **half** and you have **half**.  |
| Intersection of sets  | Where the two subsets overlap in a Venn diagram. Objects or values which belong to both subsets are placed here.  | The number 4 belongs in the **intersection** because it is even *and* less than 5.  |
| Last  | Comes after all others in time or order.  | Rory is the **last** person in the line.  |
| Length  | A linear measurement.  | The **length** of my snake is shorter than yours.  |
| Less  | A smaller amount or not as much.  | I have 15p and you have 7p. you have **less** money than me.  |
| Line  | A set of adjacent points that has length but no width.  | I have drawn a **line** matching the number four with the four ducks.  |
| Long  | An adjective used to describe length.  | I have a **long** piece of string.  |
| Mass  | A measure relating to the amount of matter within a given object.  | The **mass** of the school bag is greater than the **mass** of the book.  |
| Measure  | To find the size of something in a given unit.  | How might we **measure** how much flour we need to bake a cake?  |
| Minus  | A name for the symbol ‘-’, which denotes the operation of subtraction.  | Three **minus** one is equal to two.  |
| More  | A greater amount.  | I have six apples and you have two. I have **more**.  |
| Next  | Comes immediately after the present one in order.  | The **next** shape in my pattern is a square.  |
| Number bond  | A pair of numbers with a given total.  | Five and four make a **number bond** to nine.  |
| Number line  | A linear, continuous representation of number. Each number occupies a point on the line, and there is an equal interval between each number.  | This **number line** starts at zero and ends at ten.  |
| Number track  | A linear, discrete representation of number. Each number is positioned in a square on the track.  | I can count from one to ten, moving a counter along this number track.  |
| Order  | Describes the placement of items according to given criteria or in a pattern. As a verb, to place items according to given criteria or in a pattern.  | I have ordered the bears from smallest to biggest.  |
| Pair  | A set of two things used together.  | Socks come in a pair – one for each foot.  |
| Pattern  | A systematic arrangement of numbers, shapes or other elements according to a rule.  | The pattern is red, blue, red, blue, red blue.  |
| Plus  | The word representing the operation of addition. It is also the name for the symbol ‘+’.  | Five apples plus two apples are equal to seven apples.  |
| Rectangle  | A quadrilateral with four right angles.  |  |
| Second  | 1. A unit of time. 2. An ordinal number.  | Mohsin is **second** in the line today.  |
| Sequence  | A series of numbers or other elements which follow a rule.  | The number 3 is next in the **sequence** because each number is one less than the one before.  |
| Set  | A defined group of objects, numbers or other elements.  | I have placed all the purple counters in this **set** because they are all the same colour.  |
| Share  | To distribute fairly between a given number of recipients. This is one model for division.  | I will **share** the crayons equally between the people at the table.  |
| Short  | An adjective used to describe length.  | This string will not reach to the door. It is too **short**.  |
| Side  | A straight line that forms part of the boundary of a shape.  | This shape has four straight **sides**.  |
| Size  | An element’s overall dimensions or magnitude.  | The **size** of my shoe is smaller than my teacher’s.  |
| Sort  | To organise a set of elements into specified categories.  | I will **sort** these objects based on their size.  |
| Square  | A quadrilateral with four equal length sides and four right angles.  |  |
| Straight  | A line or movement uniform in direction, without bends or curves.  | The walls of the school are **straight**.  |
| Subtract  | Carry out the process of subtraction.  | Nine **subtract** three is equal to six.  |
| Subtraction  | The inverse operation to addition.  | We are taking some away so it is a **subtraction** question.  |
| Sum  | The result of one or more additions.  | The **sum** of five and three is eight.  |
| Surface  | An outer boundary of a 3-D object.  | This cone has a curved **surface**.  |
| Take away  | Used in the reduction structure of subtraction. To remove a number of items from a set.  | He ate three of the sweets so we need to **take away** three counters.  |
| Tall  | Measuring a specific distance from top to bottom.  | Our class teacher is not as tall as our head teacher.  |
| Time  | Related to duration. Measured in seconds, minutes, hours, days, weeks, months, years etc.  | After lunch it will be time for P.E.  |
| Total  | The sum found by adding.  | There are a total of five people at this table.  |
| Triangle  | A polygon with three sides.  |  |
| Venn diagram  | Two or more circles which represent given sets and intersect according these.  |  |
| Vertex (pl. vertices)  | The point at which two or more lines intersect.  | This shape has five **vertices**.  |
| Weight  | The force exerted on an object by gravity. Weight therefore changes with a change in gravitational force. Used interchangeably with mass until KS2.  | The **weight** of this book is heavier than the pencil.  |
| Zero  | The number before one. It is neither positive nor negative.  | **Zero** comes before one on the number track.  |

**KS1**

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| **KS1 - General** |
| **Concept** | **Definition** |
| Bar models | A visual strategy to help solve number problems using different sized rectangles to represent numbers. The rectangles or 'bars' are proportional so that a larger number in a problem is represented by a larger bar. It does not provide the answer but gives the user an understanding of what calculation is needed to find the answer. |
| Calculate | To compute or work out mathematically. |
| Concrete objects | Objects that can be handled and manipulated to support understanding of the structure of a mathematical concept.Materials such as Dienes (Base 10 materials), Cuisenaire, Numicon, pattern blocks are all examples of concrete objects. |
| Diagram | A picture, a geometric figure or a representation. |
| Efficient | Well-organised, e.g. I will use my number bonds knowledge to calculate 22 + 7 efficiently. I know that 2 + 7 is equal to 9, so the answer is 29. That’s more efficient that counting on seven. |
| Facts | The word 'fact’ is related to the four operations and the instant recall of knowledge about the composition of a number. i.e. an addition fact for 20 could be 10+10; a subtraction fact for 20 could be 20-9=11. A multiplication fact for 20 could be 4 x 5 and a division fact for 20 could be 20÷5 = 4. |
| Fluency | To be mathematically fluent, one must have a mix of conceptual understanding, procedural fluency and knowledge of facts to enable you to tackle problems appropriate to your stage of development confidently, accurately and efficiently. |
| Mental calculation | Referring to calculations that are largely carried out mentally, but may be supported with a few simple written jottings. |
| Missing number problems | A problem of the type 7 = ☐ − 9. |
| Number line | A line where numbers are represented by points upon it. |
| Number sentence | A mathematical sentence involving numbers. Examples: 3 + 6 = 9. |
| Number track | Numbered track along which counters might be moved. The number in a region represents the number of single moves from the start. |
| Part-whole diagram | A visual strategy to help solve addition and subtraction problems. A whole object can be split into two or more parts in many different ways. The parts might look different; each part will be smaller than the whole, and the parts can be combined to make the whole. |
| Pictorial representations | Pictorial representations enable learners to use pictures and images to represent the structure of a mathematical concept. |
| Represent | To express or show a mathematical concept using words, numerals and symbols, pictures, diagrams, or concrete manipulatives. |

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| **KS1 – Number and Place Value** |
| **Concept** | **Definition** |
| Approximate | The number is not exact but it is close. |
| Cardinal number | A cardinal number denotes quantity, as opposed to an ordinal number which denotes position within a series.1, 2, 5, 23 are examples of cardinal numbers. |
| Column | A vertical arrangement of numbers or objects, e.g. 23 has two tens – I will place them into the tens column. |
| Compare | In mathematics when two entities (objects, shapes, curves, equations etc.) are compared one is looking for points of similarity and points of difference as far as mathematical properties are concerned. |
| Consecutive | Following in order. Consecutive numbers are adjacent in a count. Examples: 5, 6, 7 are consecutive numbers. 25, 30, 35 are consecutive multiples of 5 multiples of 5. |
| Count | The act of assigning one number name to each of a set of objects (or sounds or movements) in order to determine how many objects there are. |
| Digit | Any number from 0 to 9 (inclusive). |
| Estimate | An appropriately accurate guess, depending on the context and numbers involved. |
| Even number | A number with a 0, 2, 4, 6 or 8 in the ones and therefore exactly divisible by two. |
| Greater than | An inequality between numbers. The symbol used to represent greater than is an arrow pointing towards the smallest number. |
| Inequality | When one number, or quantity, is not equal to another. The inequality signs in use are: < means ‘less than’; A < B means ‘A is less than B’> means ‘greater than’; A > B means ‘A is greater than B’ |
| Less | A smaller amount or not as much. |
| Less than | An inequality between numbers. The symbol used to represent less thanis an arrow pointing towards the smallest number. |
| More | A greater amount. |
| Numeral | A symbol used to denote a number.  |
| Odd number | A number that when divided by two leaves a remainder of one. |
| Order | Describes the placement of items according to given criteria or in a pattern. As a verb, to place items according to given criteria or in a pattern. |
| Ordinal number | A term that describes a position within an ordered set. Example: first, second, third, fourth … twentieth etc. |
| Partition | To split a number into component parts. Example: the two-digit number 38 can be partitioned into 30 + 8 or 19 + 19. |
| Pattern | A systematic arrangement of numbers, shapes or other elements according to a rule. |
| Place value | The value of a digit that relates to its position or place in a number. Example: in 1482 the digits represent 1 thousand, 4 hundreds, 8 tens and 2 ones respectively. |
| Quantity | Something that has a numerical value, for example: 5 bananas. |
| Sequence | A succession of terms formed according to a rule. There is a definite relation between one term and the next and between each term and its position in the sequence. Example: 1, 4, 9, 16, 25 etc. |
| Sign/ symbol | A symbol used to denote an operation. Examples: addition sign +, subtraction sign −, multiplication sign ×, division sign ÷, equals sign = etc. |
| Sort | To classify a set of entities into specified categories. |
| Zero | Nought or nothing; zero is the only number that is neither positive nor negative. |

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| **KS1 – Addition and Subtraction** |
| **Concept** | **Definition** |
| Addend | A number to be added to another. |
| Addition | The operation to combine at least two numbers or quantities to form a further number or quantity, the sum or total. Addition is the inverse operation to subtraction. |
| Add | Carry out the process of addition |
| Altogether | In total. |
| Column addition/ subtraction | A formal method of setting out an addition or a subtraction in ordered columns with each column representing a decimal place value and ordered from right to left in increasing powers of 10.With addition, more than two numbers can be added together using column addition, but this extension does not work for subtraction. |
| Commutative | Addition has the property of commutativity – when two numbers are added, this can be done in any order and the same answer will be obtained: 3 + 2 = 5, 2 + 3 = 5. Subtraction is not commutative. |
| Difference | The numerical difference between two numbers or sets of objects. It is found by comparing the quantity of one set of objects with another. |
| Equal | Symbol: =, read as ‘is equal to’ or ‘equals’. and meaning ‘having the same value as’. Example: 7 – 2 = 4 + 1 since both expressions, 7 – 2 and 4 + 1 have the same value, 5. |
| Exchange | Change a number or expression for another of equal value. The process of exchange is used in some standard compact methods of calculation. It is the process of making groups of tens when adding or subtracting two digit numbers (or more) and is another name for carrying and borrowing. |
| Inverse operations | The calculation which is opposite to a given calculation, and effectively reverses it. Addition is the inverse of subtraction. So for the calculation 4 + 3 = 7, the following calculations also apply: 3 + 4 = 7 (commutativity), 7 – 4 = 3, 7 – 3 = 4.  |
| Minus | A name for the symbol −, representing the operation of subtraction. |
| Number bond | A pair of numbers with a particular total, e.g. number bonds for ten are all pairs of whole numbers with the total 10. |
| Plus | A name for the symbol +, representing the operation of addition. |
| Subtract | Carry out the process of subtraction. |
| Subtraction | The inverse operation to addition. Finding the difference when comparing magnitude. Take away. |
| Subtrahend | A number to be subtracted from another. |
| Sum | The result of one or more additions. |
| Take away | 1. Subtraction as reduction2. Remove a number of items from a set. |
| Total | The sum found by adding. |

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| **KS1 – Multiplication, Division & Fractions** |
| **Concept** | **Definition** |
| Array | An ordered collection of counters, numbers etc. in rows and columns. |
| Common fraction | A fraction where the numerator and denominator are both integers. |
| Commutative | Multiplication has the property of commutativity – when two numbers are multiplied, this can be done in any order and the same answer will be obtained: 4 x 6 = 24, 6 x 4 = 24. Division is not commutative. |
| Denominator | The number written at the bottom of a fraction. In a measure context, it indicates the number of equal parts into which the whole is divided. |
| Divide | To carry out the operation of division. |
| Dividend | In division, the number that is divided. E.g. in 15 ÷ 3, 15 is the dividend. |
| Division | Division can be sharing – the number to be divided is shared equally into the stated number of parts; or grouping – the number of groups of a given size is found. Division is the inverse operation to multiplication. |
| Double | To multiply by 2. Example: Double 13 is (13 × 2) = 26. The number or quantity that is twice another. Example: 26 is double 13. |
| Equivalent fractions | Fractions with the same value as another. For example: 4/8, 5/10, 8/16 are all equivalent fractions and all are equal to ½. |
| Fraction | A part of a whole number, quantity or shape. |
| Group | To make equal size groups. This is one model for division. |
| Half | One of two equal parts of a shape, quantity or object. |
| Multiple | A multiple is a number that can be divided by another number a certain number of times without a remainder. In the number sentence 4 x 5 = 20, 20 is a multiple of 4 and a multiple of 5. |
| Multiplicand | A number to be multiplied by another, e.g. in 5 × 3, 5 is the multiplicand as it is the number to be multiplied by 3. |
| Multiplication | Finding how many altogether in a given number of equal sized groups. Represented by the symbol ‘x’. |
| Multiply | Carry out the process of multiplication. |
| Near double | A ‘near double’ is one away from a double. Example:27 is a near double of 13 and of 14. (N.B. spotting near doubles can be a useful mental calculation strategy e.g. seeing 25 + 27 as 2 more than double 25). |
| Non-unit fraction | A fraction with a numerator greater than one. |
| Numerator | The number written at the top of a fraction. In a measure context, it indicates the specified number of parts out of the whole. |
| Product | The result of multiplying one number by another. Example: The product of 2 and 3 is 6 since 2 × 3 = 6. |
| Quarter | One of four equal parts of a whole, quantity or object. |
| Repeated addition | The process of repeatedly adding the same number or amount. One model for multiplication. Example 5 + 5 + 5 + 5 = 5 x 4. |
| Repeated subtraction | The process of repeatedly subtracting the same number or amount. One model for division. Example 35 -5 - 5 - 5 - 5 - 5 - 5 - 5 = 0 so 35 ÷ 5 = 7 remainder 0. |
| Share (equally) | To distribute fairly between a given number of recipients. This is one model for division. |
| Unit fraction | A fraction that has 1 as the numerator and whose denominator is a non-zero integer. Example: ½, ⅓ |

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| **KS1 – Measures** |
| **Concept** | **Definition** |
| Analogue clock | A clock usually with 12 equal divisions labelled ‘clockwise’ from the top 12, 1, 2, 3 and so on up to 11 to represent hours. |
| Capacity | The amount of liquid a container can hold/ The volume of a material (typically liquid or air) held in a vessel or container. Units include litres, decilitres, millilitres; cubic centimetres (cm3) and cubic metres (m3). A litre is equivalent to 1000 cm3. |
| Centilitre | Symbol: cl. A unit of capacity or volume equivalent to one-hundredth of a litre. |
| Centimetre | Symbol: cm. A unit of linear measure equivalent to one hundredth of a metre. |
| Chronological | Relating to events that occur in a time ordered sequence. |
| Cost | A monetary value assigned to a good or service. |
| Digital clock | A clock that displays the time as hours and minutes passed, usually since midnight. Example: four thirty in the afternoon is displayed as 16:30. |
| Distance | A measure between two points or things. |
| Empty | Containing nothing. |
| Full | Contains/holds as much or as many as possible; has no empty space. |
| Gram | Symbol: g. The unit of mass equal to one thousandth of a kilogram. |
| Hour | A unit of time. One twenty-fourth of a day. 1 hour = 60 minutes = 3600 (60 x 60) seconds. |
| Kilogram | Symbol: kg. The base unit of mass. 1kg = 1000g. |
| Kilometre | Symbol: km. A unit of length. 1km = 1000m |
| Length | The extent of a line segment between two points. |
| Litre | Symbol: l. A metric unit used for measuring volume or capacity. A litre is equivalent to 1000 cm3. |
| Mass | This refers to the weight of an object. It is measured in grams (g) and kilograms (kg). |
| Measure | To find the size. |
| Metre | Symbol: m. The base unit of length. |
| Millilitre | Symbol: ml. One thousandth of a litre. |
| Millimetre | Symbol: mm. One thousandth of a metre. |
| Minute | Unit of time. One-sixtieth of an hour. 1 minute = 60 seconds. |
| Pence | Symbol p. A unit of money. 100p = £1.00. |
| Pound sterling (money) | Symbol £. A unit of money. £1.00 = 100 pence.£1 is commonly called a pound. |
| Scale | Equally spaced markings on a measuring device which can be read to quantify a measurement. |
| Temperature | A measure of the hotness of a body, measured by a thermometer or other form of heat sensor. |
| Time | Related to duration. Measured in seconds, minutes, hours, days, weeks, months, years etc. |
| Unit | A standard used in measuring e.g. the metre is a unit of length; the degree is a unit of turn/angle, etc. |
| Volume | A measure of three-dimensional space. Usually measured in cubic units; for example, cubic centimetres (cm3) and cubic metres (m3). |
| Weight | The force exerted on an object by gravity. Weight therefore changes with a change in gravitational force. Used interchangeably with mass until KS2. |

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| **KS1 – Geometry** |
| **Concept** | **Definition** |
| Above | Used to describe a higher position than another object. |
| Angle | The amount of turn, measured in degrees. |
| Anticlockwise | In the opposite direction from the normal direction of travel of the hands of an analogue clock. |
| Axis of symmetry | A line dividing a shape into two symmetrical parts. |
| Below | Used to describe a lower position than another object. |
| Circle | The name of a 2-D shape. A circle has a curved side. |
| Clockwise | In the direction in which the hands of an analogue clock travel. |
| Cone | A 3-D shape with one circular plane face, which tapers to an apex. |
| Cube | A 3-D shape with six identical square faces. |
| Cuboid | A 3-D shape with six rectangular faces. |
| Curved surface | A non-plane surface of a 3-D shape. Both cones and cylinders have curved surfaces. |
| Cylinder | A 3-D shape with two circular faces joined by a curved surface. |
| 2-D | Abbreviation for two-dimensional. A figure is two-dimensional if it lies on a plane. |
| 3-D | Abbreviation for three-dimensional. A solid is three-dimensional and occupies space. |
| Direction | The orientation of a line in space.e.g. north, south, east, west; up, down, right, left are directions. |
| Edge | A line segment joining two vertices of a plane figure (2-D shape) and the intersection of two plane faces (in a 3-D shape). Also known as a side. |
| Face | One of the flat surfaces of a solid shape. Example: a cube has six faces; each face being a square. |
| Half turn | A 180 degree rotation, i.e. 12 of a 360 degree or ‘full’ turn. |
| Heptagon | A polygon with seven sides and seven angles. |
| Hexagon | A polygon with six sides and six angles. |
| Horizontal | Horizontal refers to planes and line segments that are parallel to the horizon. |
| Kite | A quadrilateral with two pairs of equal, adjacent sides whose diagonals consequently intersect at right angles. |
| Oblong | Sometimes used to describe a non-square rectangle – i.e. a rectangle where one dimension is greater than the other. |
| Octagon | A polygon with eight sides. |
| Pattern | A systematic arrangement of numbers, shapes or other elements according to a rule. |
| Pentagon | A polygon with five sides and five interior angles. |
| Polygon | 2D shapes with straight, fully closed sides. A polygon can have any number of sides. The most common are triangles, squares, hexagons etc. |
| Position | Location as specified by a set of coordinates in a plane or in full 3-dimensional space. |
| Prism | A prism is a 3-D solid with two identical, parallel bases and otherwise rectangular faces. |
| Property | Any attribute. Example: One property of a square is that all its sides are equal. |
| Pyramid | A 3-D shape with a polygonal base and otherwise triangular faces, which form edges with the base, and which meet at an apex. |
| Quadrilateral | A polygon with four sides. |
| Quarter turn | A rotation through 90º, usually anticlockwise unless stated otherwise. |
| Rectangle | A quadrilateral with four right angles. |
| Right angle | An angle of 90 degrees. |
| Rotation | The act of rotating about an axis/centre. |
| Sphere | A 3-D shape with a continuous surface, which is at all points equidistant from its centre. It has an infinite number of flat faces and straight edges. |
| Square | A quadrilateral with four equal length sides and four right angles. |
| Straight  | A line or movement uniform in direction, without bends or curves. |
| Surface | An outer boundary of a 3-D object. |
| Symmetry | A shape is symmetrical when it fits exactly onto itself when folded in half. |
| Triangle | A polygon with three sides. |
| Turn | A rotation about a point: a quarter turn is a rotation of 90°. A half turn is a rotation of 180°, a whole turn is a rotation of 360°. |
| Vertex/Vertices | The point at which two or more lines intersect. Also known as corners. |
| Vertical | At right angles to the horizontal plane.The up-down direction on a graph or map. |

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| **KS1 – Statistics** |
| **Concept** | **Definition** |
| Bar chart | A format for representing statistical information. Bars, of equal width, represent frequencies and the lengths of the bars are proportional to the frequencies (and often equal to the frequencies). Sometimes called bar graph. The bars may be vertical or horizontal depending on the orientation of the chart. |
| Block graph | A simple format for representing statistical information. One block represents one observation. Example: A birthday graph where each child places one block, or colours one square, to represent himself / herself in the month in which he or she was born. |
| Carroll diagram | A sorting diagram named after Lewis Carroll, author and mathematician, in which numbers (or objects) are classified as having a certain property or not having that property. |
| Categorical data | Data arising from situations where categories (unordered discrete) are used. Examples: pets, pupils’ favourite colours. |
| Chart | Another word for a table or graph. |
| Column graph | A bar graph where the bars are presented vertically. |
| Data | Information of a quantitative nature consisting of counts or measurements. |
| Frequency | The number of times an event occurs; or the number of individuals (people, animals etc.) with some specific property. |
| Pictogram | Suitable pictures, symbols or icons are used to represent objects. For large numbers one symbol may represent a number of objects and a part symbol then represents a rough proportion of the number. |
| Table | An orderly arrangement of information, numbers or letters usually in rows and columns. |
| Tally | Make marks to represent objects counted; usually by drawing vertical lines and crossing the fifth count with a horizontal or diagonal strike through. |
| Venn diagram | Two or more circles which represent given sets and intersect. |

**KS2**

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| **KS2 - General** |
| **Concept** | **Definition** |
| Efficient methods | A means of calculation (which can be mental or written) that achieves a correct answer with as few steps as possible. |
| Formal written methods | Pupils should only use formal written methods for calculations that cannot be efficiently calculated using mental strategies (with or without jottings). |
| Interpret | Draw out the key mathematical features of a graph, or a chain of reasoning, or a mathematical model, or the solutions of an equation, etc. |

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| **KS2 – Number and Place Value** |
| **Concept** | **Definition** |
| Decimal | Most commonly used synonymously with decimal fractions where the number of tenths, hundredth, thousandths, etc. are represented as digits following a decimal point. The decimal point is placed at the right of the ones column. Each column after the decimal point is a decimal place. |
| Negative number  | A number that is less than zero. |
| Place holder | A place holder is a zero used in any place value column (that contains a value of zero) to clarify the relative positions of the digits in other places. |
| Positive number | A number that is greater than zero. Zero is neither positive nor negative. |
| Roman numeral | Roman numerals are a system of symbols used to represent numbers that were developed and used by the Romans. They do not use a place value system. |
| Round | Approximate a number, normally to the nearest multiple of ten, to make it easier with which to calculate. |

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| **KS2 – Addition and Subtraction** |
| **Concept** | **Definition** |
| Associative law | No matter how the parts in an addition equation are grouped, the answer will be the same. |
| Column addition/ subtraction | A formal method of setting out an addition or a subtraction in ordered columns with each column representing a decimal place value and ordered from right to left in increasing powers of 10.With addition, more than two numbers can be added together using column addition, but this extension does not work for subtraction. |
| Compensation | A mental or written calculation strategy where one number is rounded to make the calculation easier. The calculation is then adjusted by an appropriate compensatory addition or subtraction. Examples:• 56 + 38 is treated as 56 + 40 and then 2 is subtracted to compensate. |
| Complement (in addition) | In addition, a number and its complement have a given total. Example: When considering complements in 100, 67 has the complement 33, since 67 + 33 = 100. |
| Decomposition | In this method the number to be subtracted from (the minuend) is re-partitioned, if necessary, in order that each digit of the number to be subtracted (the subtrahend) is smaller than its corresponding digit in the minuend. |
| Exchange | Change a number or expression for another of equal value. The process of exchange is used in some standard compact methods of calculation. It is the process of making groups of tens when adding or subtracting two digit numbers (or more) and is another name for carrying and borrowing. |

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| **KS2 – Multiplication, Division & Fractions** |
| **Concept** | **Definition** |
| Associative law | No matter how the parts in an multiplication equation are grouped, the answer will be the same. |
| Compensation | A mental or written calculation strategy where one number is rounded to make the calculation easier. 27 × 19 is treated as 27 × 20 and then 27 (i.e. 27 × 1) is subtracted to compensate. |
| Correspondence problems | Correspondence problems are those in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children). |
| Decimal fraction | A fraction expressed in its decimal form. |
| Distributive law | The process whereby adding some numbers and then multiplying the sum gives the same answer as multiplying the numbers separately and then adding the products. For example, 3 × (2 + 4) = (3 × 2) + (3 × 4)3 × 12 = (3 × 10) + (3 × 2) |
| Divisible (by) | A whole number is divisible by another if there is no remainder after division and the result is a whole number. Example: 63 is divisible by 7 because 63 ÷ 7 = 9 remainder 0. However, 63 is not divisible by 8 because 63 ÷ 8 = 7.875 or 7 remainder 7. |
| Divisor | The number you divide by. |
| Equivalent | Equivalent means having the same value. Equivalent fractions have the same value. |
| Factor | A number, that when multiplied with one or more other factors, makes a given number. |
| Grid method | A written method used to teach children multiplication. It involves partitioning numbers into tens and units before they are multiplied. |
| Improper fraction | A fraction where the numerator is bigger than the denominator. These fractions are therefore greater than one whole. |
| Integer | A whole number that can be positive or negative. |
| Long division | A method used for dividing large numbers into groups or parts. Long division helps in breaking the division problem into a sequence of easier steps. |
| Long multiplication | A written method of multiplying numbers (usually a two- or three-digit number by another large number) by positioning the numbers into columns and breaking them down into a sequence of easy steps. |
| Mixed numbers | Numbers consisting of an integer and fractional part. |
| Proper fraction | A fraction with a value less than one. |
| Quotient | The result when the dividend is divided by the divisor. In 15 ÷ 3 = 5, 5 is the quotient. |
| Recurring decimal | A decimal fraction with an infinitely repeating digit or group of digits. Example: The fraction ⅓ is the decimal 0.33333 |
| Remainder | In the context of division requiring a whole number answer (quotient), the amount remaining after the operation. Example: 29 divided by 7 = 4 remainder 1. |
| Short division | A formal written layout where the quotient is calculated showing only one written step. |
| Short multiplication | A formal written layout where the multiplier is usually 9 or less. |
| Simplify | To write a number or equation in its simplest form. |

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| **KS2 – Measures** |
| **Concept** | **Definition** |
| Area  | The space a surface takes up inside its perimeter. Area is always measured in square units. |
| Convert | To change from one unit of measurement to another. |
| Degree | The most common unit of measurement for angle.One whole turn is equal to 360 degrees, written 360o |
| Perimeter | The perimeter of a 2-D shape is the total distance around its exterior. |
| Square centimetre | A unit of measure for area equal to a square with the dimensions 1 cm by 1cm. |

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| **KS2 – Geometry** |
| **Concept** | **Definition** |
| Acute angle | An angle that is smaller than a right angle. |
| Composite shape | A shape formed by combining two or more shapes. |
| Coordinate | The position of a point, usually described using pairs of numbers. |
| Equilateral | Having all sides the same length. |
| Dodecahedron | A polyhedron with twelve faces. The faces of a regular dodecahedron are regular pentagons. A dodecahedron has 20 vertices and 30 edges. |
| Isosceles | Having two sides of equal length. Isosceles triangles have two equal sides; isosceles trapezia have two equal, non-parallel sides. |
| Irregular | In geometry, irregular is a term used to describe shapes that are not regular. |
| Obtuse angle | An angle that is greater than a right angle but less than 180 degrees. |
| Parallel | Line segments that can be described as parallel must be on the same plane and will never meet, regardless of how far either or both line segments are extended. |
| Parallelogram | A 2-D shape that has two pairs of parallel sides and equal opposite angles. |
| Perpendicular | A pair of line segments (or surfaces) can be described as perpendicular if they intersect at (or form) a right angle. |
| Point | The precise location of a position on a 2-D plane. |
| Reflex angle | An angle that is greater than 180°. |
| Regular  | Describing a polygon, having all sides equal and all internal angles equal. |
| Rhombus | An equilateral parallelogram with four equal length sides. |
| Right angle | An angle of 90 degrees.  |
| Scalene | A scalene triangle has three unequal sides and three unequal angles. |
| Square-based pyramid/ Triangle-based pyramid | A pyramid is a 3-D shape with a 2-D shape (which gives the pyramid its name) as a base and triangular faces that taper to a point called a vertex or apex. |
| Trapezium | A quadrilateral with exactly one pair of parallel sides. |

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| **KS2 – Statistics** |
| **Concept** | **Definition** |
| Axis (plural: axes) | A real or imaginary reference line. The y-axis (vertical) and x-axis (horizontal) on charts and graphs are used to show the measuring scale or labels for the variables. |
| Bar graph | A representation of data in which the frequencies are represented by the height or length of the bars. |
| Interval | An interval on a graph’s axis lies between two values. |
| Line graph | A graph that uses lines to connect the points on a data chart.Used to present continuous data, such as change over time. |
| Plot | To mark out a point on a graph or grid. |