At High Well we have pupils who work at different stages of the curriculum.

The vocabulary below covers the content from the Primary curriculum.

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| **Reception** | **Definition** | **Example** |
| 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. |

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| 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 threedimensional. A solid is threedimensional 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 | My sets are **equal** because there are four bears in this set and there are four bears in this set. |

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|  | same as. Expressions on either side of the symbol have the same value. |  |
| 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. |

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| 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. |

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| **Year 1** | **Definition** | **Example** |
| Analogue clock | A clock with a face and hands. |  |
| Anticlockwise | Movement in the opposite direction to the motion of the hands of a clock. |  |
| Approximate | The number is not exact but it is close. | Our PSHE lesson lasts **approximately** half an hour. |
| Array | An arrangement of counters or numbers, in columns and rows, used to represent multiplication and division | This **array** shows 3 × 4, 4 ×  3, 12 ÷ 4 and 12  ÷ 3 |

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| Block graph | The pre-cursor to the bar graph, this representation of data has an x- and y-axis and one block represents one item. Each block is adjoined to the adjacent block. |  |
| Chart | A table or graph. | I will mark one day for the sun on our weather **chart**. |
| Chronological | In time order. | I ordered the events in my day **chronologically**. I woke up, ate my breakfast, went to school then came home. |
| Clockwise | Movement in the direction of the hands of a clock. |  |
| Cone | A 3-D shape with one circular plane face, which tapers to an apex. |  |
| Continuous surface | An outer boundary of a 3-D object which is uninterrupted by any plane surfaces. | A sphere has a **continuous surface**. |
| Data | Quantitative information which has been counted or measured. | This block graph shows us **data** for the colour of the cars in the car park. |
| Decreasing | Becoming smaller in value. Used in relation to number sequences. | 15, 14, 13, 12. This number pattern is **decreasing** by one each time. |
| Diagram | An illustration, drawing or representation. | I will draw a **diagram** to show how I programed my floor toy to move. |
| Digit | One of the ten Arabic numerals 0 to 9, from which we compose numbers. | The number 54 has the **digit** five in the tens column and the **digit** four in the ones. The **digit** five has a value of fifty. |
| Divide | To share or group into equal parts. | I can **divide** 12 by three using grouping or sharing. |
| Estimate | An appropriately accurate guess, depending on the context and numbers involved. | I **estimate** there are eight cubes in the cup because it looks about double four but fewer than ten. |
| Even number | A number with a 0, 2, 4, 6 or 8 in the ones and therefore exactly divisible by two. | 32 is an **even number**. |
| Facts | Related to the four operations (+, -, ×, ÷). Pupils should be supported in achieving | Number bonds to and within 10 and 20 are **facts**, e.g. 3 + 7 = 10. |

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|  | fluency, i.e. very fast recall, in these facts. These then become **known facts**. |  |
| Fraction | 1. A part of a whole number, quantity or shape. 2. Expressing a division relationship between two integers in the   𝑎  form .  𝑏 | I have shared my sweets into four equal parts. Everyone will get a **fraction** of the whole quantity of sweets. One group is a quarter of the whole. |
| Half turn | A 180 degree rotation, i.e.  of a 360 degree or ‘full’ turn. |  |
| Hour | A unit of time. | There are 24 hours in one day. |
| Increasing | Becoming greater in value. Used in relation to number sequences. | 2, 4, 6, 8. This number pattern is **increasing** by two each time. |
| Kilogram | A standard unit of mass, equal to 1000 grams. | The book has a mass of two **kilograms**. |
| Known fact | A number fact which has been committed to memory (or very fast recall) and can be applied fluently to various calculation strategies. | When I use the ‘Make ten’ strategy to add, I use **known facts** to partition the number I’m adding. |
| Left | Indicating the position or direction. | Make a quarter turn **left** and walk forward three steps. |
| Litre | A standard unit of volume, equal to 1000 millilitres. | The capacity of the jug is about half a **litre**. |
| Mental calculation | A calculation performed without using a formal written strategy. Simple jottings may aid a mental calculation. | 14 plus 5 is equal to 19. I completed this using a **mental calculation** and deriving facts because I know that four plus five is equal to nine. |
| Metre | A standard unit of measure, equal to 100 centimetres. | I estimate that the table is about a **metre** tall. |
| Minute | A unit of time. | We will have lunch in five **minutes.** |
| Oblong | A quadrilateral with two pairs of parallel sides of equal length. |  |
| Odd number | An integer which is not divisible by two without a remainder. | All numbers which end in 1, 3, 5, 7 and 9 are **odd numbers**. |
| Partition | To split a number into two or more parts. | The number 23 can be  **canonically** **partitioned**  (by place value) into 20 and 3, or **non-canonically** **partitioned** in many |

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|  |  | | different ways, including 18 and 5, 17 and 6, etc. |
| Place value | A system for writing numbers, in which the value of a digit is defined by its position within the number. | | In the number 452 written in base ten, the digit four has a value of 400, the five has a value of 50 and the two has a value of two. |
| Position | Location, expressed either descriptively using positional prepositions, or specified by coordinates. | | The book is **on** the table. The clock is hanging **above** the board. |
| Pound (sterling) | The official currency of the United Kingdom. | | **Pounds sterling** are written using the £ symbol. There are 100 pence in one **pound** sterling. |
| Property | Any attribute. | | A **property** of a triangle is that it has three straight sides and three vertices, the sum of whose angles is 180 degrees. |
| 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. | |  |
| Quantity | An amount, in some cases given a numerical value. | | A **quantity** of apples is placed on the left-hand side of the balance. How many kilogram masses will we need to place on the right to balance the apples? |
| Quarter | One of four equal parts of a whole, quantity or object. | | I have shared the eight conkers into four equal groups – I have two conkers, which is one **quarter** of the whole. |
| Quarter turn | A 90-degree rotation, i.e.  of a 360 degree ‘full’ turn. | |  |
| Repeated addition | A structure of multiplication where equal parts are added to make a whole. | | I can show 4 × 5 as **repeated addition**: 4 + 4 + 4 + 4 + 4. |
| Repeated subtraction | A structure of division, where equal parts are subtracted and the number of equal parts summed to calculate a quotient. | | I can use **repeated subtraction** to calculate 20 divided by four: 20 – 4 – 4 – 4 – 4 – 4. |
| Represent | To express or show a mathematical concept using words, numerals and symbols,  pictures, diagrams, or concrete manipulatives. | | I have used three blue cubes to **represent** the three oranges in the question. I used a part-whole model to **represent** the addition question. |
| Right | Indicating the position or direction. | | The picture is on the **right**hand side of the board. |
| Rule | A consistent pattern which allows generalisation. Awareness of a rule allows a pupil to continue a sequence or generate a related sequence. | | 2, 5, 8, 11, 14…  The **rule** is that each number is three greater than the previous number. Therefore, the next number in this sequence will be 17. |
| Scales | An object used to measure mass. | | The **scales** showed that the banana had a greater mass than the apple. |
| Sign | Synonymous with symbol in its mathematical context, e.g.  +, -, ×, ÷, =. | | 20 5 = 4. What is the missing **sign**? |
| Standard unit | A uniform measure, agreed upon as standard. | | **Standard units** of mass include grams and kilograms. **Standard units** of length include centimetres, metres and kilometres.  **Standard units** of volume and capacity include millilitres and litres. |
| 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. | | A bowling ball is a **sphere**. |
| Symbol | Synonymous with sign in its mathematical context, e.g. +, , ×, ÷, =. | | 20 5 = 4. What is the missing **symbol**? |
| Table | A structure organised into columns and rows, in which data can be recorded. | | The information for Thursday is not yet complete on the **table** because it is only Wednesday. |
| Turn | Rotati turn). | on (see half and quarter | A whole turn is 360 degrees. A half turn is 180 degrees. A quarter turn is 90 degrees. |
| Unit | 1. 2. | An element considered as a single entity. Ten single cubes can be grouped together to make a unit of ten. A unit of measure, which can be standard or non-standard. | I regrouped ten ones for one **unit** of ten.    Unifix cubes can be used as **units** of measure, but these are not **standard units**. |
| Volume | A quantity or amount of any substance and the 3-D space it fills. | | The bottle contains a **volume** of one litre but its capacity is two litres. The bottle is half full. |

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| **Year 2** | **Definition** | **Example** |

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| Angle | The amount of turn, measured in degrees. | The **angle** is 60 degrees. |
| Calculate | To compute or work out mathematically. | Can you **calculate** the answer to 13 + 4? |
| Centimetre | A metric unit of length. | The book is 15 **centimetres** long. |
| Column | A vertical arrangement of numbers or objects. | 23 has two tens – I will place them into the tens **column**. |
| Commutative | A property of addition and multiplication. It does not matter in which order the addends or factors are added or multiplied; the result will be the same. | 4 + 6 = 10  6 + 4 = 10  This demonstrates that addition is **commutative**. Arrays demonstrate the  **commutativity** of  multiplication, i.e. 3 × 4 = 4 × 3 |
| Consecutive | Following in order. | 2, 3, 4, 5, 6 are **consecutive** numbers. 3, 6 and 9 are **consecutive** multiples of 3. |
| Denominator | The number written below the vinculum in a fraction. In a measure context, it indicates the number of equal parts into which the whole is divided. In a division context, it is the divisor. | In the fraction one quarter, four is the **denominator**. |
| Division | The process of partitioning a whole into equal parts. | 12 **divided** by 3 is equal to 4. |
| Efficient | Well-organised. Choosing an efficient computation strategy requires consideration of the numbers involved and will normally utilise ‘known facts’. | 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. |
| Frequency | The number of times something occurs within a data set. | 4 pupils have brown hair. The **frequency** of brown hair is  4. |
| Gram | A metric unit of mass. | The pencil weighs 20 **grams**. |
| Heptagon | A polygon with seven sides and seven angles. |  |
| Hexagon | A polygon with six sides and six angles. |  |
| Inverse operations | Opposite operations that ‘undo’ each other. | Addition and subtraction are **inverse** operations. |
| Millilitre | A metric unit of capacity/volume. | The can of fizzy drink has a capacity of 330 **millilitres**. |
| Multiple | The result of multiplying a number by an integer, for example, 12 is a multiple of 3 and 4 because 3 × 4 = 12. | 36 is a **multiple** of three because three multiplied by 12 is equal to 36. It is also a **multiple** of 12 for the same |

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|  |  | reason (and 1, 2, 4, 6, 9, 18 and 36). |
| Multiplication | One of the four mathematical operations. Multiplication can be understood as repeated addition or scaling (introduced in Year 3). | The **multiplication** symbol is ×. |
| Multiply | To increase a quantity by a given scale factor. | I can **multiply** 3 by 4 which is equal to 12. |
| Near double | When two numbers involved in an addition are close in value, such as 23 + 22. The numbers can be treated as exact doubles, followed by compensating. | To calculate 23 + 22, I can use the **near double** strategy. I can double 22 and then add one more. |
| Non-unit fraction | A fraction with a numerator greater than one. | Two thirds is a **non-unit fraction.** |
| Numerator | The number written above the vinculum in a fraction. In a measure context, it indicates the specified number of parts out of the whole. In a division context, it is the dividend. | In the fraction one quarter, one is the **numerator**. |
| Octagon | A polygon with eight sides and eight angles. |  |
| Operation | A mathematical process. The four mathematical operations are addition, subtraction, multiplication and division. | 4 + 2 = 6. The **operation** is addition. |
| Pentagon | A polygon with five sides and five angles. |  |
| Pictogram | A representation of data using pictures or symbols. |  |
| Quadrilateral | A 2D shape with four sides and four angles. which add up to 360 degrees. |  |
| Relationship | The way in which two or more things are connected. | The **relationship** between addition and subtraction is that they are the inverse of each other. |
| Right angle | An angle of 90 degrees. | A square has four **right angles**. |
| Rotation | The act of rotating about an axis/centre. | I will **rotate** the square 90 degrees clockwise. |
| Scale | Equally spaced markings on a measuring device which can  be read to quantify a measurement. | Using the **scale** on the ruler, the book measures 15cm. |
| Symmetry | A shape is symmetrical when it fits exactly onto itself when folded in half. | This triangle has one line of **symmetry**. |
| Tally | A form of counting. Each tally is a vertical mark. After the fourth vertical mark, a fifth horizontal/diagonal mark is drawn to create a group of five. | Four children have black hair; I will record this as four **tallies**. |
| Temperature | The measure of heat. | Outside has a **temperature** of 15 degrees Celsius. |
| Unit fraction | A fraction with a numerator of one. | One-third is a **unit fraction**. |
| Vinculum | A horizontal line that separates the numerator and the denominator in a fraction. | 1  vinculum  4 |

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| **Year 3** | **Definition** | **Example** |
| Acute angle | An angle that is smaller than a right angle. | It is smaller than my right angle checker so this must be an **acute angle**. |
| 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. | The y-**axis** on this bar graph shows you how many pupils preferred each colour. |
| Bar graph | A representation of data in which the frequencies are represented by the height or length of the bars. | This **bar graph** shows us the preferred colours of the pupils in our Year 3 class. |
| Columnar addition/subtraction | The formal written algorithms for addition and subtraction that are  exemplified in *Mathematics Appendix 1* of the 2014 national curriculum. | Solve the following calculations by using the appropriate method of **columnar addition** or **subtraction**. |
| Factor | A number, that when multiplied with one or more other factors, makes a given number. | The number six has four **factors**: 1, 2, 3 and 6. |
| Formal written methods | Exemplified in *Mathematics Appendix 1 (see above)*. As | Pupils should only use **formal written methods** |

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|  | well as including columnar addition and subtraction, these also consist of written algorithms for multiplication and division. | for calculations that cannot be efficiently calculated using mental strategies (with or without jottings). |
| Horizontal | Horizontal refers to planes and line segments that are parallel to the horizon. | The x-axis on a graph should be **horizontal**. |
| Irregular | In geometry, irregular is a term used to describe shapes that are not regular (see below). | The sides and the angles of this pentagon are not all equal so the pentagon is **irregular**. |
| Kilometre | A metric unit measure of length that is equal to one thousand metres. | The distance from the school to Arun’s house was exactly one **kilometre**. |
| Millimetre | A metric unit measure of length that is equal to one thousandth of one metre. | The length of Philippa’s ruler is 300 **millimetre**s. |
| Numeral | A numeral is a symbol (or group of symbols) used to represent a number. | Whole numbers can all be represented as **numerals** consisting of the digits 0 to 9. |
| Obtuse angle | An angle that is greater than a right angle but less than 180 degrees. | It is greater than my right angle checker so this angle must be **obtuse**. |
| 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. | The opposite sides of a square are **parallel**. |
| Perimeter | The perimeter of a 2-D shape is the total distance around its exterior. | I know that one side of this square is 2cm so it must have a **perimeter** of 8cm. |
| Perpendicular | A pair of line segments (or surfaces) can be described as perpendicular if they intersect at (or form) a right angle. | The adjacent sides of a rectangle are **perpendicular**. |
| 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. | I need to use a **place holder** in the ones column to make it clear that my number is 320 and not 32. |
| Prism | A prism is a 3-D solid with two identical, parallel bases and otherwise rectangular faces. | A triangular **prism** has five faces, consisting of three rectangles and two triangles which are parallel. |
| Product | The result you get when you multiply two numbers. | 24 is the **product** of 3 and 8. |
| Regular | Regular 2-D shapes (regular polygons) have angles that | A square is a **regular** 2-D shape because all four angles |
|  | are all equal and side lengths that are all equal.  Regular 3-D shapes (the Platonic Solids) are those that have congruent (exactly the same) faces of a single regular polygon. | are right angles and all four sides are the same length. A cube is a **regular** 3-D shape with six identical square faces. |
| 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. | The number twelve on this clock is represented by the **Roman numerals** XII, which is 10 + 1 + 1. |
| Round | Approximate a number, normally to the nearest multiple of ten, to make it easier with which to calculate. | I would **round** the number 17 to 20 because it is three away from 20 but seven away from 10. |
| Square-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. | This **square-based pyramid** has five faces; one square face and four triangular faces. |
| Triangle-based pyramid | This **triangle-based pyramid** has four triangular faces. |

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| **Year 4** | **Definition** | **Example** |
| Area | The space a surface takes up inside its perimeter. Area is always measured in square units. | The **area** is 8 square units. |
| Associative law | No matter how the parts in an addition or  multiplication equation are grouped, the answer will be the same. | (6 + 3) + 2 = 11  6 + (3 + 2) = 11  Addition and multiplication are **associative**. Subtraction and division are not. |
| Convert | To change from one unit of measurement to another. | 2 km can be **converted** to metres – it is equal to 2000 m. |
| Coordinate | The position of a point, usually described using pairs of numbers.  Sometimes called Cartesian coordinates, after the mathematician Rene Descartes. | The **coordinate** (3,4) describes a point that is 3 on the x axis and 4 on the y axis. |
| Decimal fraction | A fraction expressed in its decimal form. | Half written as a decimal fraction is 0.5. |
| Distributive law | The process whereby adding some numbers and then multiplying the sum gives the same answer as | 3 × (2 + 4) = (3 × 2) + (3 × 4)  3 × 12 = (3 × 10) + (3 × 2) |

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|  | multiplying the numbers separately and then adding the products. |  | | |
| Dividend | The amount that you want to divide. | In ‘12 ÷ 3 = 4’, 12 is the **dividend**. | | |
| Divisor | The number you divide by. | In ‘12 ÷ 3 = 4’, 3 is the **divisor**. | | |
| Equilateral | Having all sides the same length. | An **equilateral** triangle has three equal sides. | | |
| Equivalent | Equivalent means having the same value. Equivalent fractions have the same value. | 2 1  =  4 2 | | |
| Expression | One or a group of numbers, symbols or operators. An expression does not use equality or inequality signs. *Using an equality or inequality sign will give an equation.* | 2 × 3  4² | | |
| Grid | A series of evenly divided and equally spaced shapes, usually squares. |  |  |  |
| 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. | 6 is an integer, 0.6 is not. | | |
| Interval | An interval on a graph’s axis lies between two values. | If one point on an axis is 50 and the next 60, the **interval** is 10. | | |
| Isosceles | Having two sides of equal length. Isosceles triangles have two equal sides; isosceles trapezia have two equal, non-parallel sides. |  | | |
| Kite | A 2-D shape with two pairs of equal length adjacent sides. The diagonals intersect at right angles. |  | | |
| 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. | |  | | --- | | Temperature graph | | | |
| Mixed numbers | Numbers consisting of an integer and fractional part. | 1 ; 3 | | |
| Negative number | A number that is less than zero. (It is helpful to refer to these numbers as | -1, -24, -o.5 etc. | | |

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|  | ‘negative numbers’ rather than ‘minus’ to avoid confusion with the operation ‘minus’.) |  |
| Parallelogram | A 2-D shape that has two pairs of parallel sides and equal opposite angles. |  |
| Plot | To mark out a point on a graph or grid. | ‘**Plot** the point (3,6)’ means to draw the precise location of that point, usually shown as a dot or a small cross. |
| Point | The precise location of a position on a 2-D plane. | An exact place on a graph or on squared paper. A **point** is often represented by a capital letter. |
| Positive number | A number that is greater than zero. Zero is neither positive or negative. | 3, 32, 0.5 |
| Proper fraction | A fraction with a value less than one. | , , |
| Protractor | A measuring device for measuring the size of an angle. Angles are measured in degrees (°). |  |
| Quotient | The result when the dividend is divided by the divisor. | 15 ÷ 3 = **5**  **5** is the **quotient**. |
| Rectilinear | A rectilinear shape has straight line edges which are perpendicular (all meet at right angles). | A rectangle.  A straight-sided shape that can be divided up into other rectangles. |
| Rhombus | An equilateral parallelogram with four equal length sides. |  |
| Scalene | A scalene triangle has three unequal sides and three unequal angles. |  |
| Short division | A formal written layout where the quotient is calculated showing only one written step. | 7 7  5 3 8 5 |
| Short multiplication | A formal written layout where the multiplier is usually 9 or less. | 782  × 9  7038 |
| Simplify | To write a number or equation in its simplest form. | I can **simplify**  to . |
| Square centimetre | A unit of measure for area equal to a square with the dimensions 1 cm by 1cm. | Sometimes referred to as centimetre squared, abbreviated to **cm²**. |
| Trapezium | A quadrilateral with exactly one pair of parallel sides. |  |

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| **Year 5** | **Definition** | **Example** |
| Angle at a point | Angles that meet at a point that sum to 360°. |  |
| Angle on a line | Angles formed on a straight line that sum to 180°. |  |
| Average (mean) | A measure of central tendency. The mean average of a set of data is the sum of the quantities divided by the number of quantities. | The **mean average** of the set 4, 5, 5, 6 is 5 because (4 + 5 + 5 + 6) ÷ 4 = 5. |
| Common factor | A factor of two (or more) given numbers. | A **common factor** of 12 and 9 is 3 because 3 × 4 = 12 and 3 × 3 = 12. |
| Common multiple | A multiple of two (or more) given numbers. | A **common multiple** of 3 and 6 is 12 because 3 × 4 = 12 and 6 × 2 = 12. |
| Congruent | Used to describe two shapes or figures which are exactly the same size. | The two triangles are **congruent**. If I place one on top of the other, there is no overlap. |
| Cube number | The product of three equal factors. | Eight is a **cube number** because 8 = 2 × 2 × 2 = 23. |
| Cubic centimetre | A unit used to measure volume. The space taken up by a cube with edges of length 1 cm or which measures 1 cm × 1 cm × 1 cm. | The volume of this multilink cube is eight **cubic centimetres.** |
| Cubic metre | A unit used to measure volume. The space taken up by a cube with edges of length 1 metre. | The volume of this fridge is two **cubic metres.** |
| Decagon | A polygon with ten sides and ten angles. |  |

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| Degree | The unit of measure for angles. | A right angle is 90 **degree**s. |
| Diagonal | A straight line segment that joins one vertex to another. | The **diagonals**  of a kite are perpendicular |
| Divisible | A number is said to be divisible by another if it can be divided by that number without a remainder. | 24 is **divisible** by 8. When divided by 8 it gives a quotient of 3, with no remainder. |
| Dodecagon | A polygon with twelve sides and twelve angles. |  |
| Long division | The formal written algorithm that can be used to divide by a number with two or more digits. |  |
| Long multiplication | The formal written algorithm that can be used to multiply a number by a number with two or more digits. |  |
| Negative integer | A whole number with a value less than zero. Zero is neither positive nor negative. | When the temperature falls below 0° a **negative integer** is used to record it. |
| Nonagon | A polygon with nine sides and nine angles. |  |
| Percentage | The number of parts per hundred which is written using the % symbol. | 30% means for every 100 there are 30. |
| Polygon | A 2-D shape with three or more straight sides. | Triangles and rectangles are examples of **polygons**. |
| Polyhedron (pl.  polyhedra) | A 3-D shape with flat surfaces that are polygons. | A cuboid is a **polyhedron**. A cylinder is not a **polyhedron** because it has a curved surface. |
| Prime factor | A factor that is a prime number. | 3 and 2 are **prime** **factors** of 6. |
| Prime number | A whole number with only two factors, one and the number itself. | 2, 3, 5, 7, 11, 13, 17 and 19 are the **prime** **numbers** less than 20. |
| Remainder | The amount remaining after division when a whole number answer is needed. | 21 divided by four is equal to five with a **remainder** of 1. |
| Reflection | A mirror image that is equidistant from a mirror line. | The shape has been **reflected** in the dotted mirror line. |
| Reflex angle | An angle that is greater than 180°. |  |
| Scale (not to scale) | The ratio of lengths, in a drawing, are in proportion to the measurements of the real object.  The lengths are not in proportion when not to scale. | The diagram was not drawn **to scale**. That means I can’t use a ruler to measure the sides, because they are not in proportion to the real object. |
| Square metre | A unit of measure for area. The surface covered by a square with sides of length one metre. | The area of the floor in a room might be measured in **square metres**. |
| Square number | The product of two equal factors. | 9 is a **square number** because 9 = 3 × 3 = 32. |
| Tetrahedron | A 3-D shape with four triangular faces. |  |
| Transformation | A collective term for the ways that shapes can be changed, resulting in congruent or similar shapes, i.e. translation, reflection, rotation or enlargement. | Translations and reflections are types of **transformations**. |
| Translation | When a shape moves so that it is in a different position but retains the same size, area, angles and side length and so is congruent. | Triangle C has been translated three right and two down resulting in triangle D. |

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| **Year 6** | **Definition** | **Example** |
| Arc | A portion of the circumference of a circle |  |

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| Brackets | The symbols ( ) used to separate parts of a multi-step calculation. | **(**10 – 2**)** × 3 = 21 |
| Centre | In a circle, the centre refers to one point that is equidistant to all points around the circumference of the circle. | To draw a circle, I place the point of my pair of compasses at the **centre**. |
| Circumference | The perimeter/boundary of a circle. |  |
| Compasses | A tool for creating curved lines, arcs and circles. | I can use a pair of **compasses** to draw a circle with a radius of 4 cm. |
| Common fraction | A fraction written with a numerator and denominator separated by a vinculum. | One quarter can be written as  𝟏 a common fraction,.  𝟒 |
| Degree of accuracy | A description of how accurately a value is communicated. | The **degree of accuracy** needed for the answer is one decimal place. |
| Diameter | A line from one point of the circumference of a circle to another on the opposite side, which must pass through the centre of the circle. | The circumference of a circle is the **diameter** multiplied by pi. |
| Equivalent expression | An expression, which can be algebraic, which is equal in value to another expression. | Find an **equivalent expression** to 17 + 10. 18 + 9 is an **equivalent expression** to 17 + 10. |
| Factorise | To identify factors of a given number. To express a number as factors. | I can **factorise** 12 by looking at its factor pairs. 1 × 12 = 12, 2 × 6 = 12, 3 × 4 = 12. So the factors of 12 are 1, 2, 3, 4, 6 and 12. |
| Foot/feet | An imperial unit of measure of length. | I am approximately five **feet** tall. |
| Formula | An algebraic expression of a rule. | The area of a rectangle can be found by multiplying the width and height.  **a = w × h** |
| Gallon | An imperial unit of measure of volume/capacity. | A **gallon** is approximately 4.5 litres |
| Imperial unit | A unit of measure once officially used in the UK but is now used less often, except in the context of length. Includes miles, pounds and pints. | Miles are an **imperial unit** to measure length. |

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| Inch | An imperial unit of measure. | An **inch** is approximately 2.2 cm. |
| Intersect | The point at which two (or more) lines meet is where they intersect. | The x and y axes **intersect** at (0,0) |
| Metric unit | A standard unit of measure used in the UK and Europe. Includes centimetres, litres and kilograms. | Litres are a **metric unit** used to measure volume. |
| Mile | An imperial unit of measure of length. | Five **miles** is equivalent to eight kilometres. |
| Net | A group of 2-D shapes which, when folded and connected, forms a 3-D polyhedron. | The **net** of a cube is comprised of six connected squares. |
| Order of operations | The internationally agreed order to complete operations in a multi-step equation with multiple operations. | (3 + 4) × 2 = □  The **order of operations** dictates that the operation within the brackets is completed first. |
| Origin | The point at which axes in a coordinates grid cross; the point (0,0). | The **origin** is indicated by the blue dot. |
| Ounce | An imperial unit of measure of mass. | The newborn baby had a mass of 6 pounds and 3 **ounces**. |
| Pie chart | A representation of a set of data where each segment represents one group in proportion to the whole. | **Nationality of Astronauts**  **on Board ISS January**  **2017**  Russia  USA  France |
| Pint | An imperial unit of measure. | I found a **pint** of milk on my doorstep. |
| Pound (mass) | An imperial unit of measure of mass. | The new-born baby had a mass of 6 **pounds** and 3 ounces. |
| Proportion | A comparison between two or more parts of a whole or group. Proportion expresses a part-whole relationship. This may be represented as a fraction, a percentage or a decimal. | Two thirds of a class were boys. The **proportion** of the class that is girls is one third. |
| Quadrant | One of four regions into which a coordinates grid is divided. |  |
| Radius | A line from one point of the circumference of a circle to the centre of the circle. |  |
| Ratio | A comparison between two or more parts of a whole or group. Ratio expresses a partpart relationship. This is usually represented in the form a:b. | For every 4 tulips there are 7 daffodils. The **ratio** of tulips to daffodils is 4:7. |
| Similar | Similar shapes are those which have the same internal angles and where the side lengths are in the same ratio or proportion. Enlarging a shape by a scale factor (for example by doubling all side lengths) creates a similar shape. | All squares are **similar** to one another. |
| Square millimetre | The area of a square with sides 1 mm. | The smallest squares on graph paper have an area of one **square millimetre.** |
| Square kilometre | The area of a square with sides 1 km. | The area of England is 130 279 **square kilometres.** |
| Vertically opposite angles | Angles which are positioned opposite to one another when two lines intersect. | The purple angles indicated are **vertically opposite angles.** |