# Hurst Green Infant School

Maths Vocabulary list

This document gives examples of the vocabulary which is used by all stake holders in daily maths lessons. Although the vocabulary is split into key stages it is vital that teachers use and build upon the vocabulary from the previous year group/key stage.

EYFS

| Area of maths | Mathematical word | Definition | Example |
|---|---|---|---|
| Number | After | Following, behind | The number '5' comes **after** '4' on the number line. |
| | Before | In front of or prior to. | The number '~~3~~4' comes **before** '5' on the number line. |
| | Compare | Look for similarities and/or differences between at least two objects or sets. | I can **compare** these two sets – this set has more. |
| | 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. |
| | Describe | To express mathematical features, qualities and details in words. | Can you **describe** the different amounts? |
| | 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. |
| | 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 in this set. |
| | 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**. |
| | Next | Comes immediately after the present one in order. | Which number comes **next**? |
| | 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.** |
| | 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**. |
| | Order | Describes the placement of items according to given criteria or in a pattern.<br>As a verb, to place items according to given criteria or in a pattern. | I have **ordered** the bears from smallest to biggest. |
| | Repeating Pattern | A systematic arrangement of numbers, shapes or other elements according to a rule. | The **pattern** is red, blue, red, blue, red, blue. |
| | Subitise | Children say the total without counting | Don't count see the amount! |
| | 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. |

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| | Zero | The number before one. It is neither positive nor negative. | **Zero** comes before one on the number track. |
| Addition | 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. |
| | Double | To multiply by two or add a value to itself. | Ten is **double** five. |
| | More | A greater amount. | I have six apples and you have two. I have **more**. |
| | Total | The sum found by adding. | There are a total of five people at this table. |
| Subtraction | 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. |
| | Less | A smaller amount or not as much. | I have 15p and you have 7p. you have **less** money than me. |
| | 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. |
| | 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. |
| Multiplication | Group | To make equal size groups. This is one model for division. | I will **group** the crayons equally so that each person gets two. |
| | Pair | A set of two things used together. | Socks come in a **pair** – one for each foot. |
| | 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. |
| | Sort | To organise a set of elements into specified categories. | I will **sort** these objects based on their size. |
| Division | 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**. |
| | 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. |
| Shape | Circle | The name of a 2-D shape. A **circle** has one curved side. | |
| | Corner | A point where two or more lines meet. The correct mathematical term is vertex (vertices). | A square has four **corners** (vertices). |
| | 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 one **curved** face and one flat face. |
| | Cylinder | A 3-D shape with two identical 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. |

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| | Describe | To express mathematical features, qualities and details in words. | Can you **describe** the properties of a cube? |
| | Edge<br><br>I would call the edge of a 2D shape a 'side' | 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 **sides** and a cube has 12 **edges**. |
| | Face | One of the plane surfaces of a solid shape. | A cube has six **faces**. |
| | Flat | A level surface. | The table has a **flat** rectangular surface. |
| | Rectangle | A quadrilateral with four right angles. | |
| | Side | A straight line that forms part of the boundary of a shape. | This shape has four straight **sides**. |
| | 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**. |
| | Surface | An outer boundary of a 3-D object. | This cone has a curved **surface**. |
| | Triangle | A polygon with three sides. | |
| | Vertex (pl. vertices) | The point at which two or more lines intersect. | This shape has five **vertices**. |
| Measure | 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.<br>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.<br>The two objects **balance** which means they have the same mass. |
| | Capacity | The amount of liquid a container can hold. | This cup is full to **capacity** because it cannot hold any more water. |
| | Clock | A tool used to measure time. | The **clock** shows us that the time is now 2 o'clock. |
| | Cost | A monetary value assigned to a good or service. | This apple **costs** 10p. What coin could I use to pay for it? |
| | Distance | A measure between two points or things. | The **distance** between my house and the school is 500m. |
| | Empty | Containing nothing. Most commonly used in the context of measures. | There is no more water left in the jug – it is **empty**. |
| | First | Comes before all others in time or position. | **First** I brush my teeth. Then I go to bed. |
| | Full | Contains/holds as much or as many as possible; has no empty space. | The juice carton is not **full** because I drank some. |
| | Last | Comes after all others in time or order. | Rory is the **last** person in the line. |
| | Length | A distance from end to end | The **length** of my pencil is 15cm. |
| | 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** the amount of flour we need to bake a cake? |
| | Short | An adjective used to describe length. | This string will not reach to the door. It is too **short**. |
| | Size | How big an object is. | The **size** of my shoe is smaller than my teacher's. |
| | 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. |

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| | 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. |
| Position and direction | Above | Used to describe a higher position than another object. | The Maths Meetings board is **above** the sink. |
| | After | Following, behind | Which animal is **after** the lion? |
| | Before | In front of or prior to. | The elephant comes **before** the tiger. |
| | 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. |
| | Direction | The orientation of a line in space. | Which **direction** should we jump – forwards or backwards? |
| | Next | Comes immediately after the present one in order. | The **next** shape in my pattern is a square. |
| | Second | 1. A unit of time.<br>2. An ordinal number. | Max is **second** in the line today.<br>I will give you 30 **seconds** to see how many jumps you can do in this time. |
| Data | Venn diagram | Two or more circles which represent given sets and intersect according to these. | |

## Year 1

| Area of maths | Mathematical word | Definition | Example |
|---|---|---|---|
| Number | Approximate | The number is not exact but it is close. | Our PSHE lesson lasts **approximately** half an hour. |
| | Decreasing | Becoming smaller in value. Used in relation to number sequences. | 15, 14, 13, 12. This number pattern is **decreasing** by one each time. |
| | Digit | One of the ten Arabic numerals 0 to 9, from which we compose numbers.<br>A single symbol to make a numeral. | 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. |
| | Estimate/Predict | 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. |
| | Facts | Related to the four operations (+, -, ×, ÷). Pupils should be supported in achieving fluency, i.e. very fast recall, in these facts. These then become known facts. | Number bonds to and within 10 and 20 are **facts**, e.g. 3 + 7 = 10. |
| | Increasing | Becoming greater in value. Used in relation to number sequences. | 2, 4, 6, 8. This number pattern is **increasing** by two each time. |
| | 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. |
| | 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. |
| | Partition | To split a number into two or more parts. | The number 23 can be **canonically partitioned** splitting a number into 10's and one's<br>**non-canonically partitioned** in many 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. |

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| | Quantity | An amount, in some cases given a numerical value.<br>How much there is of something. | 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? |
| | 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.<br>I used a part-whole model to **represent** the addition question. |
| | 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…<br>The rule is that each number is three greater than the previous number. Therefore, the next number in this sequence will be 17. |
| | Sign | Synonymous with symbol in its mathematical context, e.g. +, -, ×, ÷, =. | 20 5 = 4. What is the missing sign? |
| | Symbol | Synonymous with sign in its mathematical context, e.g. +, -, ×, ÷, =. | 20 5 = 4. What is the missing symbol? |
| | Unit | 1. An element considered as a single entity. Ten single cubes can be grouped together to make a unit of ten.<br>2. A unit of measure, which can be standard or non-standard. | I regrouped ten ones for one unit of ten.<br>Unifix cubes can be used as units of measure, but these are not standard units. |
| Addition | 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. |
| | 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. |
| | Sum | The result of one or more additions. | The **sum** of five and three is eight. |
| Subtraction | 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. |
| | Minus | A name for the symbol '-', which denotes the operation of subtraction. | Three **minus** one is equal to two. |
| Multiplication | 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 |
| Division | Divide | To share or group into equal parts. | I can **divide** 12 by three using grouping or sharing. |
| Fractions decimals and percentages | Fraction | 1. A part of a whole number, quantity or shape.<br>2. Expressing a division relationship between two integers in the form $ab$. | 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. |
| | 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. |
| Shape | 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**. |
| | Oblong | A quadrilateral with two pairs of parallel sides of equal length. | |
| | 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. |

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| | 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. | |
| | 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. |
| Measure | Analogue clock | A clock with a face and hands. | |
| | Anticlockwise | Movement in the opposite direction to the motion of the hands of a clock. | |
| | 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. | |
| | Hour | A unit of time. | There are 24 **hours** in one day. |
| | Kilogram | A standard unit of mass, equal to 1000 grams. | The book has a mass of two **kilograms**. |
| | Litre | A standard unit of volume, equal to 1000 millilitres. | The capacity of the jug is about half a **litre**. |
| | 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.** |
| | Pound (sterling) | The official currency of the United Kingdom. | **Pounds sterling** are written using the £ symbol. There are 100 pence in one **pound** sterling. |
| | Scales | An object used to measure mass. | The **scales** showed that the banana had a greater mass than the apple. |
| | Standard unit | A uniform measure, agreed upon as standard. | **Standard units** of mass include grams and kilograms.<br>Standard units of length include centimetres, metres and kilometres.<br>Standard units of volume and capacity include millilitres and litres. |
| | 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. |
| Position and direction | Half turn | A 180 degree rotation, i.e. 12 of a 360 degree or 'full' turn. | Make and **half turn** to the left. |
| | Left | Indicating the position or direction. | Make a quarter turn **left** and walk forward three steps. |
| | 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. |
| | Quarter turn | A 90-degree rotation, i.e. 14 of a 360 degree or 'full' turn. | |
| | Right | Indicating the position or direction. | The picture is on the **righ**t-hand side of the board. |
| | Turn | Rotation (see half and quarter turn). | A whole **turn** is 360 degrees. A half **turn** is 180 degrees. A quarter **turn** is 90 degrees. |
| Data | Block graph<br>No explicit data handling taught – may use to interpret in some situations e.g. greatest amount/least/ | 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. | |

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| | finding the difference | | |
| | Chart | A table or graph. | I will mark one day for the sun on our weather **chart**. |
| | 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. |
| | Diagram | An illustration, drawing or representation. | I will draw a **diagram** to show how I programed my floor toy to move. |
| | 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. |

## Year 2

| Area of maths | Mathematical word | Definition | Example |
|---|---|---|---|
| Number | Calculate | To compute or work out mathematically. | Can you **calculate** the answer to 13 + 4? |
| | Column | A vertical arrangement of numbers or objects. | 23 has two tens – I will place them into the tens **column**. |
| | Commutative / Commutativity | 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<br>6 + 4 = 10<br>This demonstrates that addition is **commutative**.<br>Arrays demonstrate the **commutativity** of multiplication, i.e. 3 × 4 = 4 × 3 |
| | Consecutive | Following in order. | 2, 3, 4, 5, 6 are **consecutive** numbers.<br>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**. |
| | 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. |
| | Inverse operations | Opposite operations that 'undo' each other. | Addition and subtraction are **inverse** operations. |
| | 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**. |
| | Operation | A mathematical process. The four mathematical operations are addition, subtraction, multiplication and division. | 4 + 2 = 6. The **operation** is addition. |
| | 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. |
| Addition | 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. |
| Subtraction | No new vocabulary see previous year groups | | |
| Multiplication | Groups Of | | 2 x 4 = 8<br>2 **groups of** 4 = 8 |

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| | 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 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. |
| Division | Division | The process of partitioning a whole into equal parts. | 12 **divided** by 3 is equal to 4. |
| Fractions, decimals and percentages | Non-unit fraction – have not used this | A fraction with a numerator greater than one. | Two thirds is a **non-unit fraction.** |
| | Unit fraction – have not used this | 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. | 14 **vinculum** |
| Shape | Heptagon | A polygon with seven sides and seven angles. | |
| | Hexagon | A polygon with six sides and six angles. | |
| | Octagon | A polygon with eight sides and eight angles. | |
| | Pentagon | A polygon with five sides and five angles. | |
| | Quadrilateral | A 2D shape with four sides and four angles. Which add up to 360 degrees. | |
| | Symmetry | A shape is symmetrical when it fits exactly onto itself when folded in half. | This triangle has one line of **symmetry**. |
| Measure | Centimetre | A metric unit of length. | The book is 15 **centimetres** long. |
| | Gram | A metric unit of mass. | The pencil weighs 20 **grams**. |
| | Millilitre | A metric unit of capacity/volume. | The can of fizzy drink has a capacity of 330 **millilitres**. |
| | 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. |
| | Temperature | The measure of heat. | Outside has a **temperature** of 15 degrees Celsius. |
| Position and direction | Angle | The amount of turn, measured in degrees. Between lines and a common point. | The **angle** is 60 degrees. |
| | 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. |
| Data | Frequency | The number of times something occurs within a data set. | 4 pupils have brown hair. The **frequency** of brown hair is 4. |
| | Pictogram | A representation of data using pictures or symbols. | |
| | 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**. |