| Language Descriptors - Year 1 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Count | The ability to count forwards and backwards in ones from **any** given number. |
| Place Value | Understanding the value of each digit in a number |
| Multiples | The ability to count in groups of numbers including 2s, 5s and 10s. |
| More/less | Use the language of more or less when counting forward and backward. |
| Equal | When two representations are given and they are balanced. This is also used for simple calculations. |
| Fewer/least/less than | This is used when comparing two different things and the amount is less than another representation. |
| More/most/more than | This is used when comparing two different things and the amount is more than another representation. |
| Numeral | When a number has been represented using digits. |
| Ones | These are the numbers from 1-9 (formally known as units) |
| Tens | There are ten ones to a ten. |
| Addition/sum/total/altogether | The operation for using two numbers or amounts to find the overall amount (+) |
| Subtraction/take away/ difference | The operation for using two numbers or amounts to find the difference (-) |
| Number bonds *to* 20 | These are pairs of numbers that are added to make 20. |
| Number bonds *within* 20 | These are pairs of numbers that are added to a number below 20. |
| Concrete | Using physical objects to support with an understanding of the mathematics being explored |
| Missing number problems | Finding a missing number to complete the number sentence to make it accurate. For example (7 + \_\_ = 10) |
| Half | Splitting objects and amounts into two equal groups/pieces |
| Quarter | Splitting objects and amounts into four equal groups/pieces |
| Compare | Identifying the relationship between one object to another. |
| Length | Long/short, longer/shorter, tall/short, double/half |
| Mass/weight | Heavy/light, heavier than, lighter than. |
| Capacity and volume | Full/empty, more than, less than, half, half full, quarter full. |
| Time | Quicker, slower, earlier, later |
| Denominations | Understanding the different values of different coins |
| 2D shapes | Flat shapes that have no thickness |
| 3D shapes | Shapes that have thickness and are made of 2D shapes |
| Clock-wise turn | Understanding turns in terms of quarter, half and three quarters |

| Language Descriptors - Year 2 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Count | The ability to count forwards and backwards in 2, 3 and 5 from 0**.**  The ability to count forwards and backwards in 10s from **any** number. |
| Number line | Using a number line with numbers on to support with counting |
| Estimate | The ability to use knowledge of numbers to make mental calculations to find an answer that is close to the actual answer. |
| Greater than > | The symbol to show when one number is **bigger** than another number. For example: 47 > 36. |
| Less than < | The symbol to show when one number is **less** than another number. For example: 27< 35. |
| Number facts | Using the operations to support with calculations. |
| Mental methods | The ability to solve problems without having to show working out. |
| Written methods | The ability to solve problems showing working out to arrive at an answer. |
| Recall | The ability to instantly give an answer to a calculation without having to work it out or count on fingers. |
| Related facts | Using known information to extend knowledge when solving calculations up to 100. |
| Commutative | Using numbers in either order to arrive at an answer. This applies to addition and multiplication. |
| Inverse | Understanding how to use the opposite operation to arrive back at an original number. This is useful for checking answers. |
| Multiplication | Understanding how to find groups of, use repeated addition to find multiples of. Also known as times tables |
| Division | Understanding how to share equally, use repeated subtraction to find groups of. |
| Arrays | Placing counters in an order than are equal with each column and equal with each row. |
| Fractions | An abstract representation using a numerator, fraction bar and denominator |
| 1/3; 1/4; 2/4; 3/4 | 1 equal part out of 3 of a length, shape, set of objects or quantity.  1 equal part out of 4 of a length, shape, set of objects or quantity.  2 equal part out of 4 of a length, shape, set of objects or quantity.  3 equal part out of 4 of a length, shape, set of objects or quantity. |
| Quantities of amounts | The ability to find amounts of a set of objects. For example: 1/2 of 6 is 3. |
| Equivalence | Identifying the relationship between fractions that have been given and seeing if they are equivalent |
| m/cm | The short hand term for metre and centimetre. There are 100cm to 1m. |
| kg/g | The short hand term for kilogram and gram. There are 1000g to 1kg. |
| l/ml | The short hand term for litres and millilitres. There are 1000ml to a litre. |
| unit | Using the appropriate form of measure for either length, weight or capacity. |
| Temperature | Degrees celsius (oC) |
| Sequence | The ability to order times with a start and end point  The ability to create a set of numbers that follow the same rule. |
| Symmetry | The ability to identify lines through a shape, that will be exactly the same on both sides. |
| Properties (of shape) | Understand the sides and corners of a shape (2D)  Understand the number of faces, sides, corners of a shape (3D) |
| Sort | Group 2D and 3D shapes and every day objects based on their properties. |
| Position, direction and movement | Explain how something can be compared to another item, using rotation to explain. |
| Pictogram | A type of chart, using pictures to show the amount of a given item. |
| Tally charts | Using lines to show group of give (four vertical lines and 1 diagonal line). |
| Block Diagrams | Individual squares/rectangles are used for creating a graph. |
| Category | Selecting one specific type of item or group to understand. |
| Quantity | The amount that you have for a particular group. |

| Language Descriptors - Year 3 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Count | The ability to count forwards and backwards in 4, 8, 50 and 100 from 0**.**  The ability to find 10 or 100 more/less from **any** number. |
| Three digit number | Numbers that include hundreds (H), tens (T) and ones (O) |
| Compare | The ability to look at different numbers and look at how they are different. Comparing commonly uses greater and less than. |
| Order | To look at a group of numbers and arrange them so they are getting bigger (ascending) or smaller (descending). |
| 1000 | A four digit number that includes thousands (Th), hundreds (H), tens (T) and ones (O). |
| Identify | The ability to look at a representation and use mathematical knowledge to know what the number is. |
| Represent | The ability to look at a number and use different resources (concrete) to make the number |
| Estimate | The ability to use known ‘near numbers’ to solve calculations mentally. Often used as a checking tool and with rounding to the nearest integer. |
| Formal written methods (columnar addition and subtraction) | Using the column method to solve calculations. This will include the place value being lined up correctly and an answer bar used for your answer. |
| Complex problems (addition and subtraction) | The ability to solve problems that have more than one step. More than one process will be needed to complete the work. |
| Multiplication and division | Children will begin to recall facts from 3, 4 and 8 multiplication tables. |
| Formal written methods (multiplication) | Using the column method to multiply a two digit number by a single digit. |
| integer | A whole number: 1, 2, 3, 4, 5. |
| Scaling problems | Using multiplication to solve when something gets bigger or smaller.  How many times bigger? How many times smaller? |
| Correspondence | The ability to use different objects that can be multiplied to find an answer. For example: For every 4 red counters, there are six green. Jimmy has 24 red counters, how many green does he have? |
| tenths | When a group of objects have been split into 10 equal groups. |
| discrete | Whole numbers 1, 2, 3. |
| Unit fractions | Fractions where the numerator is 1 |
| Non-unit fractions | Fractions where the numerator is not 1. |
| Equivalent | The ability to use different fractions that are the same amount. For example: 1/2 is equivalent to 2/4. |
| Numerator | The top number of a fraction. This tells you how many equal parts you have |
| Denominator | The bottom number of a fraction. This tells you how many equal parts are needed to make the whole. |
| Perimeter | Counting around the edge of the shape in order to find the total distance. |
| £ | The sign used to show 100p |
| p | 100 pence are used to show a pound |
| Roman numerals - I | The ability to use I, II and III to show 1,2 and 3 respectively. |
| Roman numerals - V | The ability to use V to show 5 |
| Roman numerals - X | The ability to use X to show X |
| Nearest minute | The ability to read time on an analogue and digital time using any interval of time with minutes. |
| 12 hour clocks | Clocks that only go up to 12 o clock and reset. These will normally have am or pm to show whether it is morning or afternoon |
| 24 hour clocks | Clocks that go through the day and will not reset until a new day. These will continue onto the 13th hour for 1 o clock, 14th hour for 2 o clock and so on. |
| morning | This is shown as a.m. This is anytime from midnight to 11:59 |
| afternoon | This is shown as p.m. This is anytime from 12:00 to 23:59 |
| Noon | This is the middle of the day. It is exactly 12:00 |
| midnight | This is the beginning of a new day. It is exactly 00:00 |
| Leap year | A year that has an extra day, totalling 366. This extra day is every four years on the 29th February. |
| duration | Looking at how long something will last using hours, minutes, seconds, days, weeks, months or years to describe. |
| orientations | The ability to look at shapes in different angles and determine what the shape is. |
| angles | Understanding angles as a property of a shape or to describe a turn. |
| Right angles | When two lines make an L shape or are perpendicular. |
| Half-term | This is the same as two right angles. |
| horizontal | A line that goes from left to right (East to West). Perpendicular to vertical |
| Vertical | A line that goes top to bottom (North to South). Perpendicular to horizontal |
| parallel | Two lines that travel in the same direction. They will never meet. |
| Interpret | The ability to look at a table and understand what it shows. |
| Scaled | The ability to use the y axis that does not use 1, but instead use gaps between numbers in a sequence. |

| Language Descriptors - Year 4 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Count | The ability to count in multiples of 6, 7, 9, 25 and 1000 |
| More/less | The ability to find 1000 more or less from **any** number |
| Negative | The ability to count backwards through zero into negative numbers. This is also known as minus numbers: negative one, minus one. |
| Order | To order numbers that are ascending (bigger) or descending (smaller) beyond 1000. |
| Compare | To use language of greater than, less than, equal to when exploring numbers beyond 1000. |
| Identify | The ability to look at a representation and use mathematical knowledge to know what the number is. |
| Represent | The ability to look at a number and use different resources (concrete) to make the number |
| Estimate | The ability to use known ‘near numbers’ to solve calculations mentally. Often used as a checking tool and with rounding to the nearest integer. |
| Round | To look at a number and use mathematical knowledge to round up (digit higher than 5) or round down (digit is 4 or lower) to the nearest 10, 100 or 1000. |
| Positive | Any number that is greater than 0. |
| Roman numerals | To understand Roman Numerals from I to C  I is the same as 1  V is the same as 5  X is the same as 10  L is the same as 50  C is the same as 100 |
| Formal written method (columnar addition and subtraction) | Using place value and lining up a calculation using an answer bar to represent the answer with numbers that are up to 4 digits. |
| Inverse | Using the opposite operation to check answers.  The inverse of addition is subtraction.  The inverse of subtraction is addition. |
| Two step problems | A problem that requires more than one process to arrive at the answer. For example. Harry buys a toy at £1.76 and another toy at £2.74. How much change does he get from £5? |
| Factor pairs | To find pairs of numbers that multiply to give an answer. For example a factor pair of 24 would be 6 and 4. Presenting answering as the following  Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24 |
| Formal written methods (multiplication) | Using the columnar method (as developed in Year 3) to multiply two and three digit numbers by a single digit. |
| Distributive law | When a group of objects have been split into 10 equal groups. This shows that when one number is multiplied, another number will also do the same. For example: a(b+c) = ab + ac |
| Equivalent | The ability to use different fractions that are the same amount. For example: 1/2 is equivalent to 2/4. |
| Hundredths | Where the denominator is 100. This is leading into decimals and percentages (Year 5). |
| Non-unit | Where the numerator is larger than 1. |
| Addition and subtraction of fractions | Using fractions with the same denominator to solve addition and subtraction calculations. |
| Decimal | Understanding of decimals to two decimal places, using tenths and hundredths. |
| Decimal equivalence | Understanding the relationship between decimals and fractions using tenths and hundredths. For example: 1/10 is equivalent to 0.1 |
| 2 decimal places | Knowing the value of the number to two decimal laces, using tenths (t) and hundredths (h) |
| Convert between measure | Knowing how to convert between units of measure using the four operations to convert accurately. |
| Perimeter | The distance around the edge of a shape |
| Rectilinear | A shape that uses straight lines and can be split into 2 more common shapes. |
| Geometric shapes | Geometric shapes are polygons and can also include triangles, squares and pentagons. Other shapes may include circles or ovals. |
| Discrete data | These are values that have restrictive amounts. An example would be shoe size |
| Continuous data | These are values that don’t have a cut off point. A line graph would use this . |

| Language Descriptors - Year 5 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Million | Children should identify the numerical value of a million (1,000,000) and understand the place value with each digit. |
| Powers of 10 | Be able to recognise powers of 10 (10,100,1000 etc.) and count forwards and backwards. |
| Negative | Go backwards through zero and interpret negative numbers in context. |
| Rounding | Develop understanding of rounding to the nearest 10, 100, 1000, 10 000 and 100 000.  Use rounding to check answers to calculation and determine levels of accuracy |
| Roman Numerals | To understand Roman Numerals I to M  I is the same as 1  V is the same as 5  X is the same as 10  L is the same as 50  C is the same as 100  D is the same as 500  M is the same as 1000 |
| Formal written method (columnar addition and subtraction) | Using place value and lining up a calculation using an answer bar to represent the answer with numbers that are more than 4 digits. |
| Multi-step problems | Children are able to use four operations to solve multi-step problems. |
| Factor pairs | To find pairs of numbers that multiply to give an answer. For example a factor pair of 24 would be 6 and 4. Presenting answering as the following  Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24 |
| Common factors | Numbers that have the same factors. Commonly found with highest common factor (HCF) |
| Prime factors | Factors that are prime (2, 3, 5, 7, 11). Sometimes used with a factor tree to get it to the simplest forms. |
| Composite factors | Factors that no prime (4, 6, 8, 9, 10). |
| Formal written methods (multiplication) | Use the column method to multiply accurately. Children are able to multiply up to 4 digits by a one- or two-digit number. |
| Formal written methods (short division) | Children are able to use the formal method - also informally known as ‘bus stop’ method |
| Remainders | Children are able to find what’s left over from a division and interpret appropriately for the context.  remainders - how many are left over (people in a queue)  Fractions - to show how much is left (capacity)  Decimals - how much is left (money) |
| Multiplication and division involving decimals by 10, 100 and 1000 | To use place value to multiply and divide integers and decimals by 10, 100 and 1000. |
| Recognise squared (2) and cubed (3) | Understanding of squared by multiplying a number by itself. This is also known as ‘to the power of 2’. For example 32=3x3=9  Understanding of cubed by multiplying a number by itself and by itself again. This is also known as ‘to the power of 3’. For example 33=3x3x3=27 |
| Multiples | Understanding of the repeated addition to get to show multiples.  For example: 6 = 6, 12, 18, 24.  Commonly used with LCM. |
| Improper fractions | Understanding of fractions where the numerator is larger than the denominator. This was formally known as ‘top heavy’ fractions. |
| Mixed number fraction | Fractions that use whole numbers as well as fractions. |
| Add and subtract fractions | Add and subtract fractions that have the same denominator  Add and subtract fractions that have different denominators that are multiples of the same number. |
| Thousandths | Understanding of the denominator as /1000. Understanding of decimals to 3 decimal places (3dp). Understand the relationship between these. |
| Percent (%) | Understanding that percent is out of 100. Write percentages as a fraction with a denominator out of 100. |
| Metric | Understanding of measure that uses the following:  Millimetre, centimetre, metre, kilometre  Millilitre, litre  Gram, kilogram. |
| Imperial | Understanding of measure that uses the following:  Inches, pounds, pints |
| Perimeter of composite rectilinear shapes | Understanding of finding the perimeter of a rectilinear (shape made of different parts - such as rectangles) shape and identifying missing lengths.  Answer to use appropriate measure: mm, cm, m |
| Area of composite rectilinear shapes | Understanding of finding the area of a rectilinear (shape made of different parts - such as rectangles) shape using multiplication knowledge.  Answer to use appropriate measure mm2, cm2, m2 |
| Estimate area of irregular shapes | Using polygons that have a lengths that are different or widths that are different to estimate the overall area. |
| Volume | Ability to use cubes that are cm2 to find the overall area of a cuboid or cube. |
| Capacity | Ability to estimate the volume of a container that holds water. |
| Converting units of time | Using knowledge of analogue, digital, am and pm times to convert accurately. |
| Scaling | Understanding of making a number larger or smaller using times tables to know how many times bigger - developing language of scale factors. |
| Angles | Understanding that angles are measured in degrees (o) |
| Angles around a point | Using knowledge of angles to identify the size from a fixed point. |
| Multiples of 90o | Understanding of using 90 degrees to show quarter, half and three quarter turns. Often used with the language of perpendicular. |
| Reflection | Understanding of using a mirror line to reflect a shape horizontally, vertically or diagonally - informal language of flipped may be used. |
| Translation | The ability to move from one co-ordinate to another, using appropriate language of \_\_\_ units to the right/left and \_\_\_ units down/up. This order must be used to develop understanding of reading co-ordinates. |
| Line graph | A type of graph that uses continuous data. The ability to solve comparison, sum and difference problems involving these. |
| Timetables | Looking at tables that involve time and the ability to complete, read and interpret these effectively. |

| Language Descriptors - Year 6 | |
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| Fluency, reasoning, problem solving | **All pupils:**  Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.  **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.  Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
| Ten Million | Children should identify the numerical value of up to ten million (10,000,000) and understand the place value with each digit. |
| Rounding | Be able to round any number to a required degree of accuracy, including all the previous years objectives. |
| Negative | Go backwards through zero and interpret negative numbers in context.  The ability to calculate intervals across 0. |
| Multi-step problems | Children are able to use four operations to solve multi-step problems. |
| Formal written methods (multiplication) | Use the column method to multiply multi-digits accurately (including calculations with decimals). Children are able to multiply up to 4 digits by a two-digit number. |
| Formal written methods (long division) | Children are able to use the formal method - also informally known as ‘bus stop’ method to divide up to 4 digits by a two-digit number. |
| Remainders | Children are able to find what’s left over from a division and interpret appropriately for the context.  remainders - how many are left over (people in a queue)  Fractions - to show how much is left (capacity)  Decimals - how much is left (money) |
| Order of operations | Develop understanding of BIDMAS.  Brackets  Indices  Division  Multiply  Addition  Subtraction |
| Common factors | Using common factors to simplify fractions.  Use common multiples to express fractions in the same denomination. |
| Fractions - multiplying | Multiply ‘simple’ pairs of proper fractions (where the numerator is smaller than the denominator) and writing the answer in the simplest form (1/4 x 1/2 = 1/8 |
| Fractions - division | Divide proper fractions (where the numerator is smaller than the denominator) by an integer (1/3 ÷ 2 = 1/6). |
| Fractions - multiplying II | Multiply a single digit number with up to 2 decimal places by an integer (whole number) |
| Fractions - division II | Divide where the answer has up to 2 decimal places. |
| Ratio | The simplest form using multiplication and division to show the relationship between objects. For example there are 3 oranges and 4 apples in a fruit bowl. The ratio is 3:4  Language used is ‘for every’. It is a part in relation to the whole. For every 3 oranges there are 4 apples. |
| Proportion | The relationship of a ratio using multiplication to show the amount. For example: there are 3 oranges and 4 apples in a fruit bowl.  Language used is ‘in every’. In every 7 fruits, 3 are oranges. |
| Ratio and proportion -Relative size | Using multiplication and division to look at the relationship between two values. |
| Scale factor | Use multiplication knowledge to find a scale factor. If a shape increases by a scale factor of 2, then it will become twice as big in all dimensions. |
| formulae | Creating simple calculations that have a term missing. For example 2a + 3 = 9 |
| Linear number sequences | Simple number calculations that have a missing value. |
| Algebra (-ically) | Expressing missing terms with a letter that needs to be found. |
| Enumerate combinations of two variables | Identify the values of two unknowns, eliminating parts of the calculation to find the missing values that have been given.  For example 2a + b = 8, b - 15 = 17 |
| Standard units | Units of measure using length, mass, volume and time and convert between these. |
| Convert | Convert the metric m into the imperial mile and vice versa. |
| Area of parallelograms | Parallelogram is where there are 2 pairs of parallel lines  Find the area by measuring the length and width and multiplying together. |
| Area of triangles | Find the area by multiplying the height by the width and then halving the answer. |
| Volume with standard units | Finding the volume by multiplying length x width x height and using the standard units of cm3. Extending to other units of measure |
| Quadrilaterals | Any four sided 2D shape - rectangle, square, rhombus, kite etc. |
| Circles - diameter | The length that passes through the centre of a circle from one side to another edge of the circle.. |
| Circles - radius | The length to go from the edge of a circle to the centre. This is also known as half the length of the diameter |
| Nets | Using nets to create a 3D shape. |
| Regular polygons | Shapes that have the same width and length as well as angles being equal. A square is a common example. |
| Full co-ordinate grid | Describe positions that use all four quadrants. The four quadrants will go into the positive and negative. |
| Co-ordinate plane | This is the mathematical name that is given to the x and y axes. |
| Pie Charts | A pie chart is represented as a circle. Children are able to construct and interpret these. |
| Average - mean | Understanding of the mean to find the average.  Add together all the values, then divide by how many values there are. |