

## **Progression of Skills**

## <u>Maths</u>



| Early years                                |   |   |  |   |
|--|---|---|--|---|
| Counting Principle: Stable Order - It      | is the simple concept that the sequence <sup>.</sup>                                  | for how we count always stays the same.   |  |   |
| *Says numbers out of order.                | *Joins in with counting books.  | *Order numerals to 5.                     | *Order numbers to 10.                      | *Can identify missing numbers on a      |
| *Counts everyday objects -                 | *Recites numbers to 5.  | *Recites numbers to 20.                   | *Verbally counts beyond 20 and             | number track or line to 20.             |
| sometimes missing steps.                   | *Recites numbers to 10.   | *Can find the next numbers on a           | recognises the pattern of the              | *Counts verbally and with objects       |
| *Can join in with singing simple           |   | number line.                              | counting system.                           | from numbers other than 1.              |
| number songs and rhymes.                   |   |   |  |   |
| Counting Principle: 1:1 Correspondence     | e and Subitising - Understanding that e   | ach object being counted must be given o  | one count and only one count. Being able t | o recognise the quantity of objects     |
| without counting them individually.        |   |   |  |   |
| *Moves each item as it is counted to       | *Subitising to 3.   | *Can subitise dot images to 5.            | *Shows finger numbers up to 10.            | *Can subitise dot images to 6.          |
| 3 and then to 5.                           | *Shows finger numbers up to 3.  | *Shows finger numbers up to 5.            | *Can count out a specified number of       |   |
| *Count with 1:1 correspondence to 3.       | *Can count out a specified number of  | *Can count out a specified number of      | objects from a larger group (to 10).       |   |
|  | objects from a larger group (to 3).   | objects from a larger group (to 5).       |  |   |
|  | Count with 1:1 correspondence to 5.   | *Count with 1:1 correspondence to 10.     |  |   |
| Counting Principle: Cardinality - Under    | rstanding that the last count of a group o  | of objects represents how many are in th  | e group. The cardinal principle is reliant | on the child establishing a good grasp  |
| of the 1:1 correspondence and stable of    | rder principles.  |   |  |   |
| *Knows the last number reached is          | *Knows the last number reached is   | *Knows the last number reached is         | *Counting all objects by combining         | *Counting on from a specified           |
| the total when counting a small set of     | the total when counting a small set of  | the total when counting a small set of    | two groups. Knowing that the last          | number (not 1) to find a total knowing  |
| objects (to 3).                            | objects (to 10).  | objects (to 20).                          | number counted gives you the total         | that the last number counted gives      |
|  |   |   | of two groups (addition).                  | you the total.                          |
| Counting Principle: Abstraction - Under    | erstanding that the quantity of five large  | things is the same count as the quantity  | of five small things, or the quantity is t | he same as a mixed group of five small, |
| medium and large things. It is also the    | understanding that you can count anythin  | ng even though it may not be touched or s | seen.                                      |   |
| *Understand that objects in a set          | *Counts 3 jumps accurately and able   | *Counts 5 jumps accurately and able       | *Counts 10 jumps accurately and able       | *Counting on mentally by keeping        |
| can be different sizes/sets but that       | to keep track of counting without   | to keep track of counting without         | to keep track of counting without          | track of imaginary objects/numbers.     |
| each object represents 1.                  | touching or seeing the objects, e.g.  | touching or seeing the objects, e.g.      | touching or seeing the objects, e.g.       |   |
|  | counting cubes into a cup.  | counting cubes into a cup.                | counting cubes into a cup.                 |   |
| Counting Principle: Order Irrelevance      | (conservation of number) - The unders   | tanding that the order in which the numb  | pers are counted is not important. Object  | ts can be counted in any order as long  |
| as every object is only counted once.      |   |   |  |   |
| *Counts 3 objects but understands          | *Counts 5 objects but understands   | *Counts 10 objects but understands        | *Composition of numbers to 5               | *Composition of numbers to 10           |
| that if they are rearranged, there         | that if they are rearranged, there  | that if they are rearranged, there is     | (number bonds).                            | (number bonds).                         |
| are still 3.                               | are still 5.  | still 10.                                 |  |   |
|  |   | at a state of the second state and state  |  | and the Harry transmission takes        |
| <u>composition of number and number to</u> | <b>acts</b> - Know that each humber in the coun<br>different compositions of a number | ting sequence is exactly I greater that t | ne one before it and the resulting numbe   | er contains all previous numbers within |
| *Con sive the next number in the           | *Know the different compositions of a number.   | Con aive the next number in the           | *Con aive the next number in the           | *Con aive the next number in the        |
| Can give the next humber in the            | the numbers 2 and 2   | can give the next number in the           | acunting deguarded to 10                   | accumpting accumpton to 20              |
| counting sequence to 5.                    | me numbers 2 and 5.   | more)                                     | *Can give one lass than a given            | *Can give one lace than a given         |
|  |   | Murej.                                    | number in the countine deducted to         | number in the counting acquares to      |
|  |   | Anowing the atterent compositions         | 10   | number in the counting sequence to      |
|  |   | of the number o.                          | *Knowing the different compositions        | ×Knowing the different compositions     |
|  |   |   | of the numbers 6.7 and 8                   | of the numbers 9 and 10                 |
|  |   |   | of the numbers o, / and o.                 | of the humbers 9 and 10.                |

|                                       | Year 1  | Year 2  | Year 3   | Year 4  | Year 5   | Year 6   |
|---------------------------------------|---|---|--|---|--|--|
| Place value: Counting                 | *Count to and across 100,<br>forwards and backwards,<br>beginning with 0 or 1, or<br>from any given number.<br>*Count numbers to 100 in<br>numerals; count in multiples<br>of 2s, 5s and 10s.             | *Count in steps of 2, 3 and 5<br>from 0 and in tens from any<br>number, forward and<br>backward.  | *Count from 0 in multiples of<br>4, 8, 50 and 100; find 10 or<br>100 more or less than a given<br>number.  | *Count in multiples of 6, 7, 9,<br>25 and 1000.<br>*Count backwards through<br>zero to include negative<br>numbers.   | *Count forwards or<br>backwards in steps of<br>powers of 10 for any given<br>number up to 1 million.<br>*Count forwards and<br>backwards with positive and<br>negative whole numbers,  | 72010  |
| Place Value:<br>Represent             | *Identify and represent<br>numbers using objects and<br>pictorial representations.<br>*Read and write numbers to<br>100 in numerals.<br>*Read and write numbers<br>from 1 to 20 in numerals and<br>words. | *Read and write numbers to<br>at least 100 in numerals and<br>in words.<br>*Identify, represent and<br>estimate numbers using<br>different representations,<br>including the number line. | *Identify, represent and<br>estimate numbers using<br>different representations.<br>*Read and write numbers up<br>to 1000 in numerals and in<br>words. | *Identify, represent and<br>estimate numbers using<br>different representations.<br>*Read Roman numerals to<br>100 and know that over time,<br>the numeral system changed<br>to include the concept of<br>zero and place value. | including through zero.<br>*Read, write (order and<br>compare) numbers to at least<br>1 million and determine the<br>value of each digit.<br>*Read Roman numerals to<br>1000 and recognise years<br>written in Roman numerals.   | *Read, write (order and<br>compare) numbers up to 10<br>million and determine the<br>value of each digit.  |
| Place value: Use PV<br>and compare    | *Given a number, identify<br>one more and one less.   | *Recognise the place value of<br>each digit in a two-digit<br>number (tens, ones).<br>*Compare and order numbers<br>from 0 up to 100; use <,> and<br>= signs.                             | *Recognise the place value of<br>each digit in a three-digit<br>number (hundreds, tens,<br>ones).<br>*Compare and order numbers<br>up to 1000.         | *Find 1000 more or less than<br>a given number.<br>*Recognise the place value of<br>each digit in a four-digit<br>number (thousands,<br>hundreds, tens and ones).<br>*Order and compare<br>numbers beyond 1000.                 | *(Read, write) order and<br>compare numbers to at least<br>1 million and determine the<br>value of each digit.   | *(Read, write) order and<br>compare numbers up to ten<br>million and determine the<br>value of each digit.   |
| Place value: Problems<br>and rounding |   | *Use place value and number<br>facts to solve problems.   | *Solve number problems and<br>practical problems involving<br>these ideas.   | *Round and number to the<br>nearest 10, 100 or 1000.<br>*Solve number and practical<br>problems that involve all of<br>the above and with<br>increasingly large positive<br>numbers.  | *Interpret negative numbers<br>in context.<br>*Round any number up to 1<br>million to the nearest 10,<br>100, 1000, 10 000 and 100<br>000.<br>*Solve number problems and<br>practical problems that<br>involve all of the above. | *Round any whole number to<br>a required degree of<br>accuracy.<br>*Use negative numbers in<br>context, and calculate<br>intervals across zero.<br>*Solve number and practical<br>problems that involve all of<br>the above. |

| Addition and subtraction: Recall,<br>represent, use | *Read, write and interpret<br>mathematical statements<br>involving addition,<br>subtraction and equals signs.<br>*Represent and use number<br>bonds and related<br>subtraction facts within 10. | *Recall and use addition and<br>subtraction facts to 20<br>fluently and derive and use<br>related facts up to 100.<br>*Show that addition of two<br>numbers can be done in any<br>order (commutative) and<br>subtraction of one number<br>from another cannot.<br>*Recognise and use the<br>inverse relationship between<br>addition and subtraction and<br>use this to check calculations<br>and solve missing number<br>problems. | *Estimate the answer to a<br>calculation and use inverse<br>operations to check answers.   | *Estimate and use inverse<br>operations to check answers<br>to a calculation.   | *Use rounding to check<br>answers to calculations and<br>determine, in the context of<br>a problem, levels of<br>accuracy.  |  |
|---|---|---|--|---|---|--|
| Addition and subtraction:<br>Calculations           | *Add and subtract one-digit<br>and two-digit numbers to 20,<br>including zero.  | *Add and subtract numbers<br>using concrete objects,<br>pictorial representations and<br>mentally, including:<br>- a 2-digit number and ones<br>- a 2-digit number and tens<br>- 2 2-digit numbers<br>- adding 3 1-digit numbers  | *Add and subtract numbers<br>mentally, including:<br>- a 3-digit number and ones<br>- a 3-digit numbers and tens<br>- a 3-digit numbers and<br>hundreds.<br>*Add and subtract numbers<br>with up to 3 digits using<br>formal written methods of<br>columnar addition and<br>subtraction. | *Add and subtract numbers<br>with up to 4 digits using the<br>formal written methods of<br>columnar addition and<br>subtraction where<br>appropriate. | *Add and subtract whole<br>numbers with more than 4<br>digits, including using formal<br>written methods (columnar<br>addition and subtraction).<br>*Add and subtract numbers<br>mentally with increasingly<br>large numbers.   | *Perform mental<br>calculations, including with<br>mixed operations and large<br>numbers.<br>*Use their knowledge of the<br>order of operations to carry<br>out calculations involving the<br>four operations. |
| Addition and subtraction:<br>Solve problems         | *Solve one-step problems<br>that involve addition and<br>subtraction, using concrete<br>objects and pictorial<br>representations, and missing<br>number problems such as 7 =<br>_ +9.           | *Solve problems with<br>addition and subtraction:<br>- using concrete objects and<br>pictorial representations,<br>including those involving<br>numbers, quantities and<br>measures.<br>- applying their increasing<br>knowledge of mental and<br>written methods.  | *Solve problems, including<br>missing number problems,<br>using number facts, place<br>value, and more complex<br>addition and subtraction.  | *Solve addition and<br>subtraction two-step<br>problems in contexts,<br>deciding which operations<br>and methods to use and why.                      | *Solve addition and<br>subtraction multi-step<br>problems in contexts,<br>deciding which operations<br>and methods to use and why.<br>*Solve problems involving<br>addition, subtraction,<br>multiplication and division<br>and a combination of these,<br>including understanding the<br>meaning of the equals sign. | *Solve addition and<br>subtraction multi-step<br>problems in contexts,<br>deciding which operations<br>and methods to use and why.   |

| Multiplication and division: Recall,<br>represent, use | *Recall and use multiplication<br>and division facts for the 2,<br>5 and 10 multiplication<br>tables, including recognising<br>odd and even numbers.<br>*Show that multiplication of<br>two numbers can be done in<br>any order (commutative) and<br>division of one number by<br>another cannot. | *Recall and use multiplication<br>and division facts for the 3,<br>4 and 8 multiplication tables.   | *Recall multiplication and<br>division facts for<br>multiplication tables up to<br>12x12.<br>*Use place value, known and<br>derived facts to multiply and<br>divide mentally, including:<br>multiplying by 0 and 1;<br>dividing by 1; multiplying<br>together three numbers.<br>*Recognise and use factor<br>pairs and commutativity in<br>mental calculations. | *Identify multiples and<br>factors, including finding all<br>factors of two numbers.<br>*Know and use the<br>vocabulary of prime<br>numbers, prime factors and<br>composite (non-prime)<br>numbers.<br>*Establish whether a number<br>up to 100 is prime and recall<br>prime numbers up to 19.<br>*Recognise and use square<br>numbers and cube numbers<br>and the notate for squared<br>and cubed.  | *Identify common factors,<br>common multiples and prime<br>numbers.<br>*Use estimation to check<br>answers to calculations and<br>determine in the context of<br>a problem and appropriate<br>degree of accuracy.  |
|--|---|---|---|--|--|
| Multiplication and division: Calculations              | *Calculate mathematical<br>statements for multiplication<br>and division within the<br>multiplication tables and<br>write them using the<br>multiplication, division and<br>equals signs.   | *Write and calculate<br>mathematical statements for<br>multiplication and division<br>using the multiplication<br>tables that they know,<br>including for 2-digit numbers<br>times one-digit numbers,<br>using mental and progressing<br>to formal methods. | *Multiply two-digit and<br>three-digit numbers by a<br>one-digit numbers using<br>formal written layout.  | *Multiply numbers up to 4<br>digits by a 1 or 2-digit<br>number using a formal<br>written method, including<br>long multiplication for two-<br>digit numbers.<br>*Multiply and divide numbers<br>mentally drawing upon known<br>facts.<br>*Divide numbers up to 4<br>digits by a one-digit numbers<br>using the formal written<br>method of short division and<br>interpret remainders<br>appropriately for the<br>context.<br>*Multiply and divide whole<br>numbers and those involving<br>decimals by 10, 100 and<br>1000. | *Multiply multi-digit<br>numbers up to 4 digits by a<br>2-digit whole number using<br>the formal written method<br>of long multiplication.<br>*Divide numbers up to 4<br>digits by a 2-digit whole<br>number using the formal<br>written method of long<br>division and interpret<br>remainders as whole number<br>remainders, fractions or by<br>rounding, as appropriate for<br>the context.<br>*Divide numbers up to 4<br>digits by a 2-digit number<br>using the formal written<br>method of short division<br>where appropriate,<br>interpreting remainders<br>according to the context.<br>*Perform mental<br>calculations, including with<br>mixed operations and large<br>numbers. |

| Multiplication and division:<br>Solve problems      | *Solve one-step problems<br>involving multiplication and<br>division, by calculating the<br>answer using concrete<br>objects, pictorial<br>representations and arrays<br>with the support of the<br>teacher. | *Solve problems involving<br>multiplication and division,<br>using materials, arrays,<br>repeated addition, mental<br>methods and multiplication<br>and division facts, including<br>problems in contexts. | *Solve problems, including<br>missing number problems,<br>involving multiplication and<br>division, including positive<br>integer scaling problems and<br>correspondence problems in<br>which n objects are<br>connected to m objects. | *Solve problems involving<br>multiplying and adding,<br>including using the<br>distributive law to multiply<br>two digit numbers by one<br>digit, integer scaling<br>problems and harder<br>correspondence problems<br>such as n objects are<br>connected to m objects. | *Solve problems involving<br>multiplication and division<br>including using their<br>knowledge of factors and<br>multiples, squares and cubes.<br>*Solve problems involving<br>multiplication and division,<br>including scaling by simple<br>fractions and problems<br>involving simple rates. | *Solve problems involving<br>addition, subtraction,<br>multiplication and division.                               |
|---|--|--|--|---|---|---|
| Multiplication and division:<br>Combined operations |  |  |  |   | *Solve problems involving<br>addition, subtraction,<br>multiplication and division<br>and a combination of these,<br>including understanding the<br>meaning of the equals sign.   | *Use their knowledge of the<br>order of operations to carry<br>out calculations involving the<br>four operations. |

|          | *Recognise, find and name a  | *Recognise, find, name and              | *Count up and down in         | *Count up and down in       | *Identify, name and write      |  |
|----------|------------------------------|---|-------------------------------|-----------------------------|--------------------------------|--|
|          | half as one of two equal     | write fractions $1/3, \frac{1}{4}, 2/4$ | tenths; recognise that        | hundredths; recognise that  | equivalent fractions of a      |  |
|          | parts of an object, shape or | and ¾ of a length, shape, set           | tenths arise from dividing an | hundredths arise when       | given fraction, represented    |  |
|          | quantity.                    | of objects or quantity.                 | object into 10 equal parts    | dividing an object by one   | visually, including tenths and |  |
| te<br>te | *Recognise, find and name a  |   | and in dividing one-digit     | hundred and dividing tenths | hundredths.                    |  |
| wri      | quarter as one of four equal |   | numbers or quantities by 10.  | by 10.                      | *Recognise mixed numbers       |  |
| p        | parts of an object, shape or |   | *Recognise, find and write    |                             | and improper fractions and     |  |
| ຽ        | quantity.                    |   | fractions of a discrete set   |                             | convert from one form to       |  |
| nis      |                              |   | of objects: unit fractions    |                             | the other and write            |  |
| တ်       |                              |   | and non-unit fractions with   |                             | mathematical statements > 1    |  |
| Re       |                              |   | small denominators.           |                             | as a mixed number (for         |  |
| :su      |                              |   | *Recognise and use fractions  |                             | example 2/5 + 4/5 = 6/5 = 1    |  |
| tion     |                              |   | as numbers: unit fractions    |                             | 1/5).                          |  |
| rac      |                              |   | and non-unit fractions with   |                             |                                |  |
| ıت_      |                              |   | small denominators.           |                             |                                |  |

| Fractions: Compare               | *Recognise the equivalence of 2/4 and $\frac{1}{2}$ . | *Recognise and show, using<br>diagrams, equivalent<br>fractions with small<br>denominators.<br>*Compare and order unit<br>fractions and fractions with<br>the same denominators. | *Recognise and show, using<br>diagrams, families of<br>common equivalent fractions.  | *Compare and order<br>fractions whose<br>denominators are all<br>multiples of the same<br>number.   | *Use common factors to<br>simplify fractions; use<br>common multiples to express<br>fractions in the same<br>denominator.<br>*Compare and order<br>fractions, including fractions<br>>1.   |
|----------------------------------|---|--|--|---|--|
| Fractions: Calculations          | *Write simple fractions for<br>example 1/2 of 6 = 3.  | *Add and subtract fractions<br>with the same denominator<br>within one whole (for<br>example, 5/7 + 1/7 = 6/7).  | *Add and subtract fractions<br>with the same denominator.  | *Add and subtract fractions<br>with the same denominator<br>and denominators that are<br>multiples of the same<br>number.<br>*Multiply proper fractions<br>and mixed numbers by whole<br>numbers, supported by<br>materials and diagrams. | *Add and subtract fractions<br>with different denominators<br>and mixed numbers, using<br>the concept of equivalent<br>fractions.<br>*Multiply simple pairs of<br>proper fractions, writing the<br>answer in its simplest form<br>(for example, $\frac{1}{4} \times \frac{1}{2} = 1/8$ ).<br>*Divide proper fractions by<br>whole numbers (for example,<br>$1/3 \div 2 = 1/6$ ). |
| Fractions: Solve problems        |   | *Solve problems that involve<br>all of the above.  | *Solve problems involving<br>increasingly harder fractions<br>to calculate quantities and<br>fractions to calculate<br>quantities, and fractions to<br>divide quantities, including<br>non-unit fractions where the<br>answer is a whole number. |   |  |
| Decimals: Recognise and<br>write |   |  | *Recognise and write decimal<br>equivalents of any number of<br>tenths or hundredths.<br>*Recognise and write decimal<br>equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$ .  | *Read and write decimal<br>numbers as fractions (for<br>example, 0.71 = 71/100).<br>*Recognise and use<br>thousandths and relate them<br>to tenths, hundredths and<br>decimal equivalents.  | *Identify the value of each<br>digit in numbers given to<br>three decimal places.  |

| oroblems Decimals: comp                |  | <ul> <li>places up to two decimal places.</li> <li>*Find the effect of dividing a one or two-digit numbers by 10 and 100, identifying the value of the digits in the answer as ones, tenths and</li> </ul> | compare numbers with up to<br>three decimal places.<br>*Solve problems involving<br>numbers up to three decimal<br>places.  | *Multiply and divide numbers<br>by 10, 100 and 1000 giving<br>answers up to three decimal<br>places.<br>*Multiply one-digit numbers   |
|--|--|--|---|---|
| Decimals: Calculations and p           |  | hundredths.  |   | with up to two decimal places<br>by whole numbers.<br>*Use written division<br>methods in cases where the<br>answer has up to two decimal<br>places.<br>*Solve problems which<br>require answers to be<br>rounded to specified<br>degrees of accuracy.                                    |
| Fractions, Decimals and<br>Percentages |  | *Solve simple measure and<br>money problems involving<br>fractions and decimals to<br>two decimal places.  | *Recognise the per cent<br>symbol and understand that<br>per cent relates to number<br>of parts per hundred and<br>write percentages as a<br>fraction with denominator<br>100 and as a decimal.<br>*Solve problems which<br>require knowing percentage<br>and decimal equivalents of $\frac{1}{2}$ ,<br>$\frac{1}{4}$ , 1/5, 2/5, 4/5 and those<br>fractions with a denominator<br>of a multiple of 10 or 25. | *Associate a fraction with<br>division and calculate decimal<br>fraction equivalents (for<br>example, 0.375) for a simple<br>fraction (for examples 3/8).<br>*Recall and use equivalences<br>between simple fractions,<br>decimals and percentages<br>including in different<br>contexts. |

|      |  |  | *Solve problems involving    |
|------|--|--|------------------------------|
|      |  |  | the relative sizes of two    |
|      |  |  | quantities where missing     |
|      |  |  | values can be found by using |
|      |  |  | integer multiplication and   |
|      |  |  | division facts.              |
|      |  |  | *Solve problems involving    |
|      |  |  | the calculation of           |
|      |  |  | percentages (for example, of |
|      |  |  | measures and such as 15% of  |
|      |  |  | 360) and the use of          |
|      |  |  | percentages for comparison.  |
| -    |  |  | *Solve problems involving    |
| tio  |  |  | similar shapes where the     |
| oor  |  |  | scale factor is known or can |
| lou  |  |  | be found.                    |
| μ    |  |  | *Solve problems involving    |
| o ar |  |  | unequal sharing and grouping |
| atic |  |  | using knowledge of fractions |
| ă    |  |  | and multiples.               |

|     | *Solve one-step problems    | *Recognise and use the         | *Solve problems, including |  | *Use simple formulae.        |
|-----|-----------------------------|--------------------------------|----------------------------|--|------------------------------|
|     | that involve addition and   | inverse relationship between   | missing number problems.   |  | *Generate and describe       |
|     | subtraction, using concrete | addition and subtraction and   |                            |  | linear number sequences.     |
|     | objects and pictorial       | use this to check calculations |                            |  | *Express missing number      |
|     | representations and missing | and solve missing number       |                            |  | problems algebraically.      |
|     | number problems such as 7 = | problems.                      |                            |  | *Find pairs of numbers that  |
|     | 9.                          |                                |                            |  | satisfy an equation with two |
| -   |                             |                                |                            |  | unknowns.                    |
| pro |                             |                                |                            |  | *Enumerate possibilities of  |
| lge |                             |                                |                            |  | combinations of two          |
| 4   |                             |                                |                            |  | variables.                   |

Note – although algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as shown in missing number objectives from Y1, Y2, Y3.

| Aeasurement: Using Measures | *Compare, describe and solve<br>practical problems for:<br>-lengths and heights (for<br>example, long/short,<br>longer/shorter, tall/short,<br>double/half).<br>- mass/weight (for example,<br>heavy/light, heavier than,<br>lighter than).<br>- capacity and volume (for<br>example, full/empty, more<br>than, less than, half, half<br>full, quarter).<br>- time (for example, quicker,<br>slower, earlier, later).<br>*Measure and begin to<br>record the following:<br>- lengths and heights<br>- mass/weight<br>- capacity and volume<br>-time (hours, minutes, | *Choose and use appropriate<br>standard units to estimate<br>and measure length/ height<br>in any direction (m/cm); mass<br>(kg/g): temperature (oC);<br>capacity (litres/ml) to the<br>nearest appropriate unit,<br>using rulers, scales,<br>thermometers and measuring<br>vessels.<br>*Compare and order lengths,<br>mass, volume/capacity and<br>record the results using >,<<br>and =. | *Measure, compare, add and<br>subtract: lengths<br>(m/cm/mm); mass (kg/g);<br>volume/capacity (l/ml). | *Convert between different<br>units of measure (for<br>example, km to m; hour to<br>minute).<br>*Estimate, compare and<br>calculate different<br>measures. | *Convert between different<br>units of measure (for<br>example, km and m; cm and<br>m; cm and mm; g and kg; I and<br>mI).<br>*Understand and use<br>approximate equivalences<br>between metric units and<br>common imperial units such<br>as inches, pounds and pints.<br>*Use all four operations to<br>solve problems involving<br>measure (for example,<br>length. mass, volume, money)<br>using decimal notation,<br>including scaling. | *Solve problems involving<br>the calculation and<br>conversion of units of<br>measure, using decimal<br>notation up to three decimal<br>places where appropriate.<br>*Use, read, write and<br>convert between standard<br>units, converting<br>measurements of length,<br>mass, volume and time from a<br>smaller unit of measure to a<br>larger unit, and vice versa,<br>using decimal notation to up<br>to three decimal places.<br>*Convert between miles and<br>kilometres. |
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| Measurement: Money          | seconds).<br>*Recognise and know the<br>value of different<br>denominations of coins and<br>notes.   | *Recognise and use symbols<br>for pounds and pence;<br>combine amounts to make a<br>particular value.<br>*Find different combinations<br>of coins that equal the same<br>amounts of money.<br>*Solve simple problems in a<br>practical context involving<br>addition and subtraction of<br>money of the same unit,<br>including giving change.   | *Add and subtract amounts<br>of money to give change,<br>using both £ and p in<br>practical contexts. | *Estimate, compare and<br>calculate different measures<br>including money in pounds<br>and pence.  | *Use all four operations to<br>solve problems involving<br>measure (for example,<br>money).   |   |

|      | *Sequence events in<br>chronological order using | *Compare and sequence<br>intervals of time. | *Tell and write the time<br>from an analogue clock. | *Read, write and convert<br>time between analogue and | *Solve problems involving converting between units of | *Use, read, write and<br>convert between standard |
|------|--|---|---|---|---|---|
|      | language (for example                            | *Tell and write the time to                 | including using Roman                               | diaital 12 and 24 hour clocks                         | time  | units converting                                  |
|      | before and after next                            | five minutes including                      | numerals from T to XTT and                          | *Solve problems involving                             |   | measurements of time from                         |
|      | first today vesterday                            | guarter past/to the hour and                | 12-hour and 24-hour clocks.                         | converting from hours to                              |   | a smaller unit of measure to                      |
|      | tomorrow morning                                 | draw the hands on a clock                   | *Estimate and read time                             | minutes: minutes to seconds:                          |   | a larger unit and vice versa                      |
|      | afternoon and evening)                           | face to show these times                    | with increasing accuracy to                         | vears to months: weeks to                             |   |   |
|      | *Recognise and use language                      | *Know the number of                         | the nearest minute: record                          | days  |   |   |
|      | relating to dates, including                     | minutes in an hour and the                  | and compare time in terms                           | /   |   |   |
|      | days of the week, weeks                          | number of hours in a day.                   | of seconds, minutes and                             |   |   |   |
|      | months and years.                                |   | hours: use vocabulary such as                       |   |   |   |
|      | *Tell the time to the hour                       |   | o'clock am/pm morning                               |   |   |   |
|      | and half past the hour and                       |   | afternoon, noon and                                 |   |   |   |
|      | draw the hands on a clock                        |   | midnight.   |   |   |   |
|      | face to show these times.                        |   | *Know the number of                                 |   |   |   |
| me   |  |   | seconds in a minute and the                         |   |   |   |
| F    |  |   | number of days in each                              |   |   |   |
| sht  |  |   | month, year and leap year.                          |   |   |   |
| sme  |  |   | *Compare durations of                               |   |   |   |
| sur  |  |   | events (for example to                              |   |   |   |
| eas  |  |   | calculate the time taken by                         |   |   |   |
| S    |  |   | particular events or tasks).                        |   |   |   |
|      |  |   | *Measure the perimeter of                           | *Measure and calculate the                            | *Measure and calculate the                            | *Recognise that shapes with                       |
|      |  |   | simple 2D shapes.                                   | perimeter of a rectilinear                            | perimeter of composite                                | the same areas can have                           |
| a    |  |   |   | figure (including squares) in                         | rectilinear shapes in cm and                          | different perimeters and                          |
| Inn  |  |   |   | cm and m.   | m.  | vice versa.                                       |
| ٨٥   |  |   |   | *Find the area of rectilinear                         | *Calculate and compare the                            | *Recognise when it is                             |
| 'ea' |  |   |   | shapes by counting squares.                           | area of rectangles (including                         | possible to use formulae for                      |
| Ar   |  |   |   |   | squares) and including using                          | area and volume of shapes.                        |
| er,  |  |   |   |   | standard units, square cm                             | *Calculate the area of                            |
| net  |  |   |   |   | and square m and estimate                             | parallelograms and triangles.                     |
| eri  |  |   |   |   | the area of irregular shapes.                         | *Calculate, estimate and                          |
| å :: |  |   |   |   | *Estimate volume (for                                 | compare volume of cubes and                       |
| ent  |  |   |   |   | example, using 1 cm cubed                             | cuboids using standard units,                     |
| mə   |  |   |   |   | blocks to build cuboids) and                          | including cubic cm and cubic                      |
| sur  |  |   |   |   | capacity (for example, using                          | metres and extending to                           |
| lea  |  |   |   |   | water).   | other units (for example mm                       |
| 2    |  |   |   |   |   | cubed and km cubed).                              |

| Geometry: 2D Shapes        | *Recognise and name common<br>2D shapes (for example,<br>rectangles – including<br>squares – circles and<br>triangles. | *Identify and describe the<br>properties of 2D shapes,<br>including the number of<br>sides and line symmetry in a<br>vertical line.<br>*Identify 2D shapes on the<br>surface of 3D shapes (for<br>example, a circle on a<br>cylinder and a triangle on a<br>pyramid).<br>*Compare and sort common<br>2D shapes and everyday<br>objects. | *Draw 2D shapes.   | *Compare and class<br>geometric shapes, including<br>quadrilaterals and triangles,<br>based on their properties<br>and sizes.<br>*Identify lines of symmetry<br>in 2D shapes presented in<br>different orientations.  | *Distinguish between regular<br>and irregular polygons based<br>on reasoning about equal<br>sides and angles.<br>*Use the properties of<br>rectangles to deduce related<br>facts and find missing<br>lengths and angles.   | *Draw 2D shapes using given<br>dimensions and angles.<br>*Compare and classify<br>geometric shapes based on<br>their properties and sizes.<br>*Illustrate and name parts<br>of circles, including radius,<br>diameter and circumference<br>and know that the diameter<br>is twice the radius. |
|----------------------------|--|---|--|---|--|---|
| Geometry: 3D shapes        | *Recognise and name common<br>3D shapes (for example,<br>cuboids, pyramids and<br>spheres).                            | *Recognise and name common<br>3D shapes (for example<br>cuboids, pyramids and<br>spheres).<br>*Compare and sort common<br>3D shapes and everyday<br>objects.  | *Make 3D shapes using<br>modelling materials,<br>recognise 3D shapes in<br>different orientations and<br>describe them.  |   | *Identify 3D shapes,<br>including cubes and other<br>cuboids, from 2D<br>representations.  | *Recognise, describe and<br>build simple 3D shapes<br>including making nets.  |
| Geometry: Angles and Lines |  |   | *Recognise angles as a<br>property of shape or a<br>description of a turn.<br>*Identify right angles,<br>recognise that two right<br>angles make a half-turn,<br>three make three quarters<br>of turn and four a complete<br>turn; identify whether angles<br>are greater than or less than<br>a right angle.<br>*Identify horizontal and<br>vertical lines and pairs of<br>perpendicular and parallel<br>lines. | *Identify acute and obtuse<br>angles and compare and<br>order angles up to two right<br>angles by size.<br>*Identify lines of symmetry<br>in 2D shapes presented in<br>different orientations.<br>*Complete a simple<br>symmetric figure with<br>respect to a specific line of<br>symmetry. | <ul> <li>*Know angles are measures in degrees: estimate and compare acute, obtuse and reflex angles.</li> <li>*Draw given angles, and measure them in degrees.</li> <li>*Identify: <ul> <li>angles at a point and one whole turn (total 360 degrees)</li> <li>angles at a point on a straight line and ½ a turn (total 180 degrees)</li> <li>other multiples of 90 degrees.</li> </ul> </li> </ul> | *Find unknown angles in any<br>triangles, quadrilaterals and<br>regular polygons.<br>*Recognise angles where<br>they meet at a point, are on<br>a straight line, or are<br>vertically opposite, and find<br>missing angles.   |

| Geometry: Position and Direction | *Describe position, direction<br>and movement, including<br>whole, half, quarter and<br>three-quarter turns. | *Order and arrange<br>combinations of<br>mathematical objects in<br>patterns and sequences.<br>*Use mathematical<br>vocabulary to describe<br>position, direction and<br>movement, including<br>movement in a straight line<br>and distinguishing between<br>rotation as a turn and in<br>terms of right angles for<br>quarter, half and three-<br>quarter turns (clockwise and<br>anti-clockwise). | *Describe positions on a 2D<br>grid as coordinates in the<br>first quadrant.<br>*Describe movements<br>between positions as<br>translations of a given unit<br>to the left/right and<br>up/down.<br>*Plot specified points and<br>draw sides to complete a<br>given polygon. | *Identify, describe and<br>represent the position of a<br>shape following a reflection<br>or translation, using the<br>appropriate language and<br>know that the shape has not<br>changed. | *Describe positions on the<br>full coordinate grid (all four<br>quadrants).<br>*Draw and translate simple<br>shapes on the coordinate<br>plane and reflect them in the<br>axes. |
|----------------------------------|--|---|--|--|---|
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| Statistics: Present and<br>Interpret | *Interpret and construct<br>simple pictograms, tally<br>charts, block diagrams and<br>simple tables.   | *Interpret and present data<br>using bar charts, pictograms<br>and tables.   | *Interpret and present<br>discrete and continuous data<br>using appropriate graphical<br>methods, including bar<br>charts and time graphs. | *Complete, read and<br>interpret information in<br>tables, including timetables.                     | *Interpret and construct pie<br>charts and line graphs and<br>use these to solve problems. |
|--------------------------------------|--|--|--|--|--|
| Statistics: Solve problems           | *Ask and answer simple<br>questions by counting the<br>number of objects in each<br>category and sorting the<br>categories by quantity.<br>*Ask and answer questions<br>about totalling and<br>comparing categorical data. | *Solve one-step and two-<br>step questions (for example,<br>How many more? and How<br>many fewer) using<br>information presented in<br>scaled bar charts and<br>pictograms and tables. | *Solve comparison, sum and<br>difference problems using<br>information presented in bar<br>charts, pictograms, tables<br>and other graphs. | *Solve comparison, sum and<br>difference problems using<br>information presented in a<br>line graph. | *Calculate and interpret the mean as an average.   |