

## Maths progression in Key Stage 1 and Key Stage 2

### NUMBER: Place value

| Year 1  | Year 2   | Year 3   | Year 4  | Year 5   | Year 6  |
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| <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li><input type="checkbox"/> count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li> <li><input type="checkbox"/> given a number, identify one more and one less</li> <li><input type="checkbox"/> identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li><input type="checkbox"/> read and write numbers from 1 to 20</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</li> <li><input type="checkbox"/> recognise the place value of each digit in a two-digit number (tens, ones)</li> <li><input type="checkbox"/> identify, represent and estimate numbers using different representations, including the number line</li> <li><input type="checkbox"/> compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs</li> <li><input type="checkbox"/> read and write numbers to at least 100 in numerals and in words</li> <li><input type="checkbox"/> use place value and number facts to solve problems.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> <li><input type="checkbox"/> recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li><input type="checkbox"/> compare and order numbers up to 1000</li> <li><input type="checkbox"/> identify, represent and estimate numbers using different representations</li> <li><input type="checkbox"/> read and write numbers up to 1000 in numerals and in words</li> <li><input type="checkbox"/> solve number problems and practical problems involving these ideas.</li> </ul> | <p>Pupils should be taught to</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> count in multiples of 6, 7, 9, 25 and 1000</li> <li><input type="checkbox"/> find 1000 more or less than a given number</li> <li><input type="checkbox"/> count backwards through zero to include negative numbers</li> <li><input type="checkbox"/> recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li><input type="checkbox"/> order and compare numbers beyond 1000</li> <li><input type="checkbox"/> identify, represent and estimate numbers using different representations</li> <li><input type="checkbox"/> round any number to the nearest 10, 100 or 1000</li> <li><input type="checkbox"/> solve number and practical problems</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li><input type="checkbox"/> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li><input type="checkbox"/> interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li><input type="checkbox"/> round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li><input type="checkbox"/> solve number problems and practical problems that involve all of the above</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li><input type="checkbox"/> round any whole number to a required degree of accuracy</li> <li><input type="checkbox"/> use negative numbers in context, and calculate intervals across zero</li> <li><input type="checkbox"/> solve number and practical problems that involve all of the above.</li> </ul> |

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| in numerals and words. |  |  | that involve all of the above and with increasingly large positive numbers<br><input type="checkbox"/> read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. | <input type="checkbox"/> read Roman numerals to 1000 (M) and recognise years written in Roman numerals. |  |
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## NUMBER: Addition and subtraction

| Year 1  | Year 2  | Year 3   | Year 4  | Year 5  | Year 6  |
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| Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs</li> <li><input type="checkbox"/> represent and use number bonds and related subtraction facts within 20</li> <li><input type="checkbox"/> add and subtract</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> solve problems with addition and subtraction:               <ul style="list-style-type: none"> <li><input type="checkbox"/> using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li><input type="checkbox"/> applying their increasing knowledge of mental and written methods</li> <li><input type="checkbox"/> recall and use addition and</li> </ul> </li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> add and subtract numbers mentally, including:               <ul style="list-style-type: none"> <li><input type="checkbox"/> a three-digit number and ones</li> <li><input type="checkbox"/> a three-digit number and tens</li> <li><input type="checkbox"/> a three-digit number and hundreds</li> </ul> </li> <li><input type="checkbox"/> add and subtract numbers with up to three digits, using formal written methods of columnar addition and</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li><input type="checkbox"/> estimate and use inverse operations to check answers to a calculation</li> <li><input type="checkbox"/> solve addition and subtraction two-step problems in contexts, deciding which operations and</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> <li><input type="checkbox"/> add and subtract numbers mentally with increasingly large numbers</li> <li><input type="checkbox"/> use rounding to check answers to calculations and determine, in the context of a problem,</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> perform mental calculations, including with mixed operations and large numbers</li> <li><input type="checkbox"/> use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li><input type="checkbox"/> solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and</li> </ul> |

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| <p>one-digit and two-digit numbers to 20, including zero</p> <ul style="list-style-type: none"> <li>□ solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = - 9</math>.</li> </ul> | <p>subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <ul style="list-style-type: none"> <li>□ add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> <li>□ a two-digit number and ones</li> <li>□ a two-digit number and tens</li> <li>□ two two-digit numbers</li> <li>□ adding three one-digit numbers</li> <li>□ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>□ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</li> </ul> </li> </ul> | <p>subtraction</p> <ul style="list-style-type: none"> <li>□ estimate the answer to a calculation and use inverse operations to check answers</li> <li>□ solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul> | <p>methods to use and why.</p> | <p>levels of accuracy</p> <ul style="list-style-type: none"> <li>□ solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul> | <p>why</p> <ul style="list-style-type: none"> <li>□ solve problems involving addition, subtraction, multiplication and division</li> <li>□ use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul> |
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## NUMBER: Multiplication and division

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| <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> <li>□ calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs</li> <li>□ show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> <li>□ solve problems involving multiplication and</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>□ write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> <li>□ solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which <math>n</math> objects are</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>□ use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> <li>□ recognise and use factor pairs and commutativity in mental calculations</li> <li>□ multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>□ solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>□ know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>□ establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>□ multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers</li> <li>□ multiply and divide numbers mentally drawing upon known facts</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>□ multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>□ divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>□ divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate,</li> </ul> |

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|  | <p>division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> | <p>connected to m objects.</p> | <p>problems and harder correspondence problems such as n objects are connected to m objects.</p> | <ul style="list-style-type: none"> <li><input type="checkbox"/> divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</li> <li><input type="checkbox"/> multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li><input type="checkbox"/> recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</li> <li><input type="checkbox"/> solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li><input type="checkbox"/> solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the</li> </ul> | <p>interpreting remainders according to the context</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> perform mental calculations, including with mixed operations and large numbers</li> <li><input type="checkbox"/> identify common factors, common multiples and prime numbers</li> <li><input type="checkbox"/> use their knowledge of the order of operations to carry out calculations involving the four operations</li> </ul> |
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|  |  |  |  | meaning of the equals sign<br><input type="checkbox"/> solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. |  |
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## NUMBER: Fractions

| Year 1   | Year 2   | Year 3  | Year 4  | Year 5  | Year 6  |
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| <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li><input type="checkbox"/> recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li><input type="checkbox"/> write simple fractions for example <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li><input type="checkbox"/> recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li><input type="checkbox"/> recognise and use fractions as numbers: unit fractions and</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> recognise and show, using diagrams, families of common equivalent fractions</li> <li><input type="checkbox"/> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> <li><input type="checkbox"/> solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> compare and order fractions whose denominators are all multiples of the same number</li> <li><input type="checkbox"/> identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li><input type="checkbox"/> recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li><input type="checkbox"/> compare and order fractions, including fractions <math>&gt; 1</math></li> <li><input type="checkbox"/> add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li><input type="checkbox"/> multiply simple pairs of proper</li> </ul> |

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|  |  | <p>non-unit fractions with small denominators</p> <ul style="list-style-type: none"> <li>□ recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>□ add and subtract fractions with the same denominator within one whole [for example, <math>7\frac{5}{6} + 7\frac{1}{6} = 7\frac{6}{6} = 8</math>]</li> <li>□ compare and order unit fractions, and fractions with the same denominators</li> <li>□ solve problems that involve all of the above.</li> </ul> | <p>quantities, including non-unit fractions where the answer is a whole number</p> <ul style="list-style-type: none"> <li>□ add and subtract fractions with the same denominator</li> <li>□ recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>□ recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> <li>□ find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li> <li>□ round decimals with one decimal place to the nearest whole number</li> <li>□ compare numbers with the same number of decimal places up to two decimal places</li> <li>□ solve simple measure and money problems involving fractions and decimals to two</li> </ul> | <p>statements <math>&gt; 1</math> as a mixed number</p> <ul style="list-style-type: none"> <li>□ add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>□ multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>□ read and write decimal numbers as fractions</li> <li>□ recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>□ round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>□ read, write, order and compare numbers with up to three decimal places</li> <li>□ solve problems involving number up to three decimal places</li> <li>□ recognise the per cent symbol (%) and</li> </ul> | <p>fractions, writing the answer in its simplest form</p> <ul style="list-style-type: none"> <li>□ divide proper fractions by whole numbers</li> <li>□ associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li> <li>□ identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li> <li>□ multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>□ use written division methods in cases where the answer has up to two decimal places</li> <li>□ solve problems which require answers to be rounded to specified degrees of accuracy</li> </ul> |
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|  |  |  | decimal places. | <p>understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal</p> <p><input type="checkbox"/> solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</p> | <p><input type="checkbox"/> recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> |
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## MEASUREMENT

| Year 1   | Year 2   | Year 3  | Year 4   | Year 5  | Year 6   |
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| <p>Pupils should be taught to:</p> <p><input type="checkbox"/> compare, describe and solve practical problems for:</p> <p><input type="checkbox"/> lengths and heights</p> <p><input type="checkbox"/> mass/weight</p> <p><input type="checkbox"/> capacity and volume [for example,</p> | <p>Pupils should be taught to:</p> <p><input type="checkbox"/> choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (<math>^{\circ}</math>C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales,</p> | <p>Pupils should be taught to:</p> <p><input type="checkbox"/> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p><input type="checkbox"/> measure the perimeter of simple 2-D shapes</p> <p><input type="checkbox"/> add and subtract amounts of money to give change, using both <math>\pounds</math> and p in</p> | <p>Pupils should be taught to:</p> <p><input type="checkbox"/> Convert between different units of measure [km to m; hour to minute]</p> <p><input type="checkbox"/> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p><input type="checkbox"/> find the area of</p> | <p>Pupils should be taught to:</p> <p><input type="checkbox"/> convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</p> <p><input type="checkbox"/> understand and use approximate equivalences</p> | <p>Pupils should be taught to:</p> <p><input type="checkbox"/> solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</p> <p><input type="checkbox"/> use, read, write and convert between standard units,</p> |



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| <p>full/empty, more than, less than, half, half full, quarter]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> time [for example, quicker, slower, earlier, later]</li> <li><input type="checkbox"/> measure and begin to record the following: <ul style="list-style-type: none"> <li><input type="checkbox"/> lengths and heights</li> <li><input type="checkbox"/> mass/weight</li> <li><input type="checkbox"/> capacity and volume</li> <li><input type="checkbox"/> time (hours, minutes, seconds)</li> <li><input type="checkbox"/> recognise and know the value of different denominations of coins and notes</li> <li><input type="checkbox"/> sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and</li> </ul> </li> </ul> | <p>thermometers and measuring vessels</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> <li><input type="checkbox"/> recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li><input type="checkbox"/> find different combinations of coins that equal the same amounts of money</li> <li><input type="checkbox"/> solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> <li><input type="checkbox"/> compare and sequence intervals of time</li> <li><input type="checkbox"/> tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li><input type="checkbox"/> know the number of minutes in an hour</li> </ul> | <p>practical contexts</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> <li><input type="checkbox"/> estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</li> <li><input type="checkbox"/> know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li><input type="checkbox"/> compare durations of events [for example to calculate the time taken by particular events or tasks].</li> </ul> | <p>rectilinear shapes by counting squares</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> estimate, compare and calculate different measures, including money in pounds and pence</li> <li><input type="checkbox"/> read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li><input type="checkbox"/> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul> | <p>between metric units and common imperial units such as inches, pounds and pints</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li><input type="checkbox"/> calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes</li> <li><input type="checkbox"/> estimate volume [for example, using <math>1\text{ cm}^3</math> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> <li><input type="checkbox"/> solve problems involving converting between units of time</li> <li><input type="checkbox"/> use all four operations to solve problems involving measure [for example, length,</li> </ul> | <p>converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> convert between miles and kilometres</li> <li><input type="checkbox"/> recognise that shapes with the same areas can have different perimeters and vice versa</li> <li><input type="checkbox"/> recognise when it is possible to use formulae for area and volume of shapes</li> <li><input type="checkbox"/> calculate the area of parallelograms and triangles</li> <li><input type="checkbox"/> calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (<math>\text{cm}^3</math>) and cubic metres (<math>\text{m}^3</math>), and extending to other units [for example, <math>\text{mm}^3</math> and <math>\text{km}^3</math>].</li> </ul> |
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| evening]<br><input type="checkbox"/> recognise and use language relating to dates, including days of the week, weeks, months and years<br><br><input type="checkbox"/> tell the time to the hour | and the number of hours in a day. |  |  | mass, volume, money] using decimal notation, including scaling. |  |
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## GEOMETRY: Properties of shapes

| Year 1   | Year 2   | Year 3  | Year 4  | Year 5  | Year 6   |
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| Pupils should be taught to:<br><input type="checkbox"/> recognise and name common 2-D and 3-D shapes, including:<br><input type="checkbox"/> 2-D shapes [for example, rectangles (including squares), circles and triangles]<br><input type="checkbox"/> 3-D shapes [for example, cuboids (including cubes), | Pupils should be taught to:<br><input type="checkbox"/> identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line<br><input type="checkbox"/> identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces<br><input type="checkbox"/> identify 2-D shapes on the surface of 3-D | Pupils should be taught to:<br><input type="checkbox"/> draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them<br><input type="checkbox"/> recognise angles as a property of shape or a description of a turn<br><input type="checkbox"/> identify right angles, recognise that two right angles | Pupils should be taught to:<br><input type="checkbox"/> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes<br><input type="checkbox"/> identify acute and obtuse angles and compare and order angles up to two right angles by size<br><input type="checkbox"/> identify lines of symmetry in 2-D shapes presented in | Pupils should be taught to:<br><input type="checkbox"/> identify 3-D shapes, including cubes and other cuboids, from 2-D representations<br><input type="checkbox"/> know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles<br><input type="checkbox"/> draw given angles, and measure them in degrees (o)<br><input type="checkbox"/> identify: | Pupils should be taught to:<br><input type="checkbox"/> draw 2-D shapes using given dimensions and angles<br><input type="checkbox"/> recognise, describe and build simple 3-D shapes, including making nets<br><input type="checkbox"/> compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, |

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| pyramids and spheres]. | <p>shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> compare and sort common 2-D and 3-D shapes and everyday objects.</li> </ul> | <p>make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</li> </ul> | <p>different orientations</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> angles at a point and one whole turn (total 360o)</li> <li><input type="checkbox"/> angles at a point on a straight line and 2 1 a turn (total 180o)</li> <li><input type="checkbox"/> other multiples of 90o</li> <li><input type="checkbox"/> use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li><input type="checkbox"/> distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> </ul> | <p>quadrilaterals, and regular polygons</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li><input type="checkbox"/> recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> </ul> |
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## GEOMETRY: Position and direction

| Year 1   | Year 2   | Year 3  | Year 4   | Year 5   | Year 6  |
|--|--|---|--|--|---|
| <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> describe position, direction and movement, including whole, half, quarter and three-quarter turns.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> order and arrange combinations of mathematical objects in patterns and sequences</li> <li><input type="checkbox"/> use mathematical vocabulary to describe position, direction and movement, including</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> describe positions on a 2-D grid as coordinates in the first quadrant</li> <li><input type="checkbox"/> describe movements between positions as translations of a given unit to the left/right and up/down</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</li> </ul> | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> describe positions on the full coordinate grid (all four quadrants)</li> <li><input type="checkbox"/> draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul> |

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|  | movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). |  | <input type="checkbox"/> plot specified points and draw sides to complete a given polygon. |  |  |
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## STATISTICS

| Year 1 | Year 2 | Year 3  | Year 4   | Year 5   | Year 6  |
|--------|--------|---|--|--|---|
|        |        | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> interpret and present data using bar charts, pictograms and tables</li> <li><input type="checkbox"/> solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</li> <li><input type="checkbox"/> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> solve comparison, sum and difference problems using information presented in a line graph</li> <li><input type="checkbox"/> complete, read and interpret information in tables, including timetables.</li> </ul> | Pupils should be taught to: <ul style="list-style-type: none"> <li><input type="checkbox"/> interpret and construct pie charts and line graphs and use these to solve problems</li> <li><input type="checkbox"/> calculate and interpret the mean as an average.</li> </ul> |

**RATIO AND PROPORTION**

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6   |
|--------|--------|--------|--------|--------|--|
|        |        |        |        |        | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"><li><input type="checkbox"/> solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li><li><input type="checkbox"/> solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li><li><input type="checkbox"/> solve problems involving similar shapes where the scale factor is known or can be found</li><li><input type="checkbox"/> solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</li></ul> |

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## ALGEBRA

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6   |
|--------|--------|--------|--------|--------|--|
|        |        |        |        |        | <p>Pupils should be taught to:</p> <ul style="list-style-type: none"><li><input type="checkbox"/> use simple formulae</li><li><input type="checkbox"/> generate and describe linear number sequences</li><li><input type="checkbox"/> express missing number problems algebraically</li><li><input type="checkbox"/> find pairs of numbers that satisfy an equation with two unknowns</li><li><input type="checkbox"/> enumerate possibilities of combinations of two variables.</li></ul> |