

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value	<ul style="list-style-type: none"> <li>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li> <li>Given a number, identify one more and one less</li> <li>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>Read and write numbers from 1 to 20 in numerals and words</li> </ul>	<ul style="list-style-type: none"> <li>Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backwards</li> <li>Recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>Identify and represent numbers using representations, including the number line</li> <li>Measure length/height, mass, temperature and capacity to the nearest appropriate unit using representations similar to a number line (ruler, scale, thermometer, measuring vessels)</li> <li>Compare and order numbers from 0 up to 100 (&lt; &gt; =) including lengths, mass, volume/capacity</li> <li>Read and write numbers to at least 100 in numerals and in words</li> <li>Use place value and number facts to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> <li>Recognise the place value of each digit in a three-digit number (hundreds, tens ones)</li> <li>Compare and order numbers to 1000, including measures (lengths mm/cm/m, mass kg/g, volume/capacity l/ml)</li> <li>Identify, represent and estimate numbers using different representations (including reading scales to read measures: length, mass, volume, capacity)</li> <li>Read and write numbers up to 1000 in numerals and words</li> </ul>	<ul style="list-style-type: none"> <li>Count in multiples of 6,7,9,25 and 100</li> <li>Find 1000 more or less than a given number</li> <li>Count backwards through zero to include negative numbers (including in the context of temperature)</li> <li>Recognise the place value of each digit in a four-digit number</li> <li>Order and compare numbers beyond 1000 (including in the context of units of measure: mm/cm/m, g/kg, ml/l)</li> <li>Identify, represent and estimate numbers using different representations</li> <li>Round any number to the nearest 10, 100 or 1000 and use this to estimate the answer to simple + - x / calculations</li> </ul>	<ul style="list-style-type: none"> <li>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>Count forwards and backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero (including temperature)</li> <li>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> </ul>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 10,000,000 and determine the value of each digit</li> <li>round any whole number to a required degree of accuracy</li> <li>use negative numbers in context, and calculate intervals across 0</li> <li>solve number and practical problems that involve all of the above</li> </ul>
Addition and subtraction	<ul style="list-style-type: none"> <li>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>Represent and use number bonds and related subtraction facts within 10 fluently</li> <li>Add and subtract one-digit and two-digit numbers to 20, including zero</li> <li>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>Recall and use addition and subtraction facts to 20 fluently</li> <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> </ul> </li> <li>show that addition of two numbers can be done in any order (commutative)</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>	<ul style="list-style-type: none"> <li>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> <li>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> <li>Add and subtract lengths (m/cm/mm), mass (kg/g) and capacity/volume (l/ml)</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract numbers with up to 4 digits using the formal written method of columnar addition and subtraction where appropriate- including addition of money in pounds and pence, and units of measure (length, mass, capacity)</li> <li>Use inverse operations to check answers to a calculation</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> <li>Use rounding and the inverse operation to check answers to calculations</li> <li>Solve addition and subtraction multi-step problems – deciding which operations and methods to use, including measure (length/mass/volume/money)</li> </ul>	<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, interpreting remainders according to the context</li> <li>perform mental calculations, including with mixed operations and large numbers</li> <li>identify common factors, common multiples and prime numbers</li> <li>use their knowledge of the order of operations to carry out calculations involving the 4 operations</li> <li>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <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>
Multiplication and division	<ul style="list-style-type: none"> <li>Solve one-step problems including multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher</li> </ul>	<ul style="list-style-type: none"> <li>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables</li> <li>Recognise odd and even numbers</li> <li>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division 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 division using materials, arrays, repeated addition, mental methods, and multiplication and division facts including problems in the context of measure</li> </ul>	<ul style="list-style-type: none"> <li>Recall and use multiplication and division facts for the 3, 4 and 8 times 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 harder correspondence problems</li> <li>Solve problems in the context of measure (length, mass, capacity/volume)</li> </ul>	<ul style="list-style-type: none"> <li>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1, dividing by 1, multiplying together 3 numbers</li> <li>Recognise and use factor pairs and commutativity in mental calculations</li> <li>Multiply two 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 problems and harder correspondence problems such as n objects are connected to m objects</li> </ul>	<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 numbers</li> <li>Establish whether a number up to 100 is a prime and recall prime numbers up to 19</li> <li>Recognise and use square numbers and cube numbers and the notation for these</li> <li>Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication including measure (length/mass/volume/money)</li> <li>Multiply and divide numbers mentally drawing upon known facts</li> <li>Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret</li> </ul>	

					<ul style="list-style-type: none"> <li>remainders appropriately for the context</li> <li>Multiply and divide whole numbers by 10, 100 and 1000 <b>including in the context of converting metric units of measure</b></li> <li>Solve problems involving addition, subtraction, multiplication and division and a combination of these, <b>including measure (length/mass/volume/money)</b></li> </ul>	
<b>Fractions, decimals and percentages</b>	<ul style="list-style-type: none"> <li>Recognise, find and name a half as one of two equal parts of an object or quantity</li> <li>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</li> </ul>	<ul style="list-style-type: none"> <li>Recognise, find, name and write fractions (one third, one quarter, two quarters, three quarters) of a length, shape, set of objects or quantity</li> <li>Write simple fractions e.g. one half of 6 = 3</li> <li>Recognise the equivalence of <math>\frac{1}{2}</math> and <math>\frac{2}{4}</math></li> </ul>	<ul style="list-style-type: none"> <li>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>Recognise, find and write fractions of a discrete set of objects</li> <li>Recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>Add and subtract fractions with the same denominator within one whole</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> <li>Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10</li> <li>Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> <li>Add and subtract fractions with the same denominator</li> <li>Recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math> and <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 <b>(including converting metric measures km/m, ml/l, g/kg)</b></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 <b>(including units of metric measure)</b></li> <li><b>Solve simple measure and money problems involving fractions and decimals to two decimal places</b></li> </ul>	<ul style="list-style-type: none"> <li>Compare and order fractions whose denominators are all multiples of the same number</li> <li>Identify, name and write equivalent fractions of a given fraction</li> <li>Recognised mixed numbers and improper fractions, and convert between these</li> <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</li> <li>Read and write decimal numbers as fractions</li> <li>Recognise and use thousandths – relating 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>Multiply and divide decimal numbers by 10, 100 and 1000 – <b>including in the context of converting metric units of measure</b></li> <li>Recognise the per cent symbol (%) and understand that per cent relates to parts of 100, and write percentages as a fraction with denominator 100, and as a decimal</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions <math>&gt;1</math></li> <li>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li> <li>divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>]</li> <li>associate a fraction with division and calculate decimal fraction equivalents [for example, <math>0.375</math>] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li> <li>identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places</li> <li>multiply one-digit numbers with up to 2 decimal places by whole numbers</li> <li>use written division methods in cases where the answer has up to 2 decimal places</li> <li>solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> </ul>
<b>Position and direction</b>	<ul style="list-style-type: none"> <li>Describe position, direction and movement, including whole and half turns</li> </ul>	<ul style="list-style-type: none"> <li>Use mathematical vocabulary to describe position, direction and movement including 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)</li> </ul>	<ul style="list-style-type: none"> <li>Identify right angles, recognise that two right angles 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</li> <li>Identify horizontal, vertical, perpendicular and parallel lines</li> </ul>	<ul style="list-style-type: none"> <li>Describe positions on a 2D grid as coordinates in the first quadrant</li> <li>Describe movements between positions as translations of a given unit to the left/right and up/down</li> <li>Plot specified points and draw sides to complete a given polygon</li> </ul>	<ul style="list-style-type: none"> <li>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>	
<b>Shape</b>	<ul style="list-style-type: none"> <li>Recognise and name common 2D and 3D shapes</li> <li>Recognise these shapes in different orientations and sizes, and know that rectangles,</li> </ul>	<ul style="list-style-type: none"> <li>Identify and describe the properties of 2D shapes, including line symmetry in a vertical line</li> </ul>	<ul style="list-style-type: none"> <li>Identify and draw simple 2D shapes and measure their perimeter</li> <li>Recognise 2D and 3D shapes in different orientations</li> </ul>	<ul style="list-style-type: none"> <li>Compare and classify quadrilaterals and triangles based on their properties and sizes</li> </ul>	<ul style="list-style-type: none"> <li>Identify 3D shapes from 2D representations</li> <li>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> </ul>	<ul style="list-style-type: none"> <li>draw 2-D shapes using given dimensions and angles</li> <li>recognise, describe and build simple 3-D shapes, including making nets</li> </ul>

	triangles, cuboids and pyramids are not always similar to each other	<ul style="list-style-type: none"> <li>Identify and describe the properties of 3D shapes (edges, faces, vertices)</li> <li>Compare and sort common 2D and 3D shapes (including using Venn diagrams)</li> </ul>	<ul style="list-style-type: none"> <li>Recognise angles as a property of a shape of as a description of a turn</li> </ul>	<ul style="list-style-type: none"> <li>Identify acute and obtuse angles and compare and order angles up to two right angles by size</li> <li>Complete a simple symmetric figure with respect to a specific line of symmetry</li> </ul>	<ul style="list-style-type: none"> <li>Draw given angles and measure them in degrees</li> <li>Identify: angles at a point and one whole turn, angles at a point on a straight line, other multiples of 90 degrees</li> <li>Use the properties of rectangles to deduce related facts and find the missing lengths and angles</li> <li>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>
Measure	<ul style="list-style-type: none"> <li>Measure and begin to record: <ul style="list-style-type: none"> <li>Lengths and heights</li> <li>Mass/weight</li> <li>Capacity and volume</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m</li> <li>Find the area of rectilinear shapes by counting squares</li> </ul>	<ul style="list-style-type: none"> <li>Measure and calculate the perimeter of composite rectilinear shapes in cm and m</li> <li>Calculate and compare area of rectangles, and including standard units, square cm and square m</li> </ul>	<ul style="list-style-type: none"> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate</li> <li>use, read, write and convert between standard units, 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 3 decimal places</li> <li>convert between miles and kilometres</li> <li>recognise when it is possible to use formulae for area and volume of shapes</li> <li>calculate the area of parallelograms and triangles</li> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [for example, mm<sup>3</sup> and km<sup>3</sup>]</li> </ul>
Time	<ul style="list-style-type: none"> <li>Measure and begin to record time (hours, minutes, seconds)</li> <li>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</li> </ul>	Tell and write the time to the nearest 5 minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	Tell and write the time from an analogue clock Estimate and read time with increasing accuracy to the nearest minute; record and compare times in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and night Compare durations of events	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days		
Money		<ul style="list-style-type: none"> <li>Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>Find different combinations of coins that equal the same amount of money</li> <li>Solve addition and subtraction problems involving money of the same unit, including giving change.</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract money to give change (£ and p)</li> </ul>			
Algebra						<ul style="list-style-type: none"> <li>use simple formulae</li> <li>generate and describe linear number sequences</li> <li>express missing number problems algebraically</li> <li>find pairs of numbers that satisfy an equation with 2 unknowns</li> </ul>

						<ul style="list-style-type: none"> <li>• enumerate possibilities of combinations of 2 variables</li> </ul>
Ratio						<ul style="list-style-type: none"> <li>• solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts</li> <li>• 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>• solve problems involving similar shapes where the scale factor is known or can be found</li> <li>• solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li> </ul>
Statistics		<ul style="list-style-type: none"> <li>• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> <li>• Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>• Ask and answer questions about totalling and comparing categorical data</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret and present data using bar charts, pictograms and tables</li> <li>• Solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts</li> <li>• Solve comparison, sum and difference problems using information presented in bar charts, pictograms and tables</li> </ul>	<ul style="list-style-type: none"> <li>• Solve comparison, sum and difference problems using information presented in a line graph</li> <li>• Complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <li>• interpret and construct pie charts and line graphs and use these to solve problems</li> <li>• calculate and interpret the mean as an average</li> </ul>