

## End of Year Expectation

*A child working at 'age related expectation' would demonstrate a secure knowledge in the majority of the Year Related Objectives.*

### Year 1

<p><b>Number: Number</b></p> <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>	<p><b>Number: Multiplication and Division</b></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><b>Number: Addition and Subtraction</b></p> <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 20.</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 such as <math>7 = \square - 9</math>.</li> </ul>	<p><b>Number: Fractions</b></p> <ul style="list-style-type: none"> <li>➤ Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</li> <li>➤ Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul>
<p><b>Measurement: Compare, describe and solve practical problems for:</b></p>	<p><b>Measurement: Measure and begin to record the following:</b></p>
<ul style="list-style-type: none"> <li>➤ Lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]</li> <li>➤ Mass/weight [for example, heavy/light, heavier than, lighter than]</li> </ul>	<ul style="list-style-type: none"> <li>➤ Lengths and heights</li> <li>➤ Mass/weight</li> <li>➤ Capacity and volume</li> <li>➤ Time (hours, minutes, seconds)</li> </ul>

<ul style="list-style-type: none"> <li>➤ Capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]</li> <li>➤ Time [for example, quicker, slower, earlier, later]</li> </ul>	<ul style="list-style-type: none"> <li>➤ Recognise and know the value of different denominations of coins and notes</li> <li>➤ Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].</li> <li>➤ Recognise and use language relating to dates, including days of the week, weeks, months and years.</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>
<p><b>Geometry: Properties of Shapes:</b> Recognise and name common 2-D and 3-D shapes, including:</p>	<p><b>Geometry: Position and Direction</b></p>
<ul style="list-style-type: none"> <li>➤ 2-D shapes [for example, rectangles (including squares), circles and triangles]</li> <li>➤ 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</li> </ul>	<ul style="list-style-type: none"> <li>➤ Describe position, direction and movement, including whole, half, quarter and three-quarter turns.</li> </ul>

## Year 2

<p><b>Number: Number and Place Value</b></p>	<p><b>Addition and Subtraction: Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</b></p>
<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 backward.</li> <li>➤ Recognise the place value of each digit in a two-digit number (tens, ones).</li> <li>➤ Identify, represent and estimate numbers using different representations, including the number line.</li> <li>➤ Compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs.</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>➤ 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> </ul> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>
<p><b>Addition and Subtraction: Solve problems with addition and subtraction:</b></p>	<p><b>Number: Multiplication and Division</b></p>
<ul style="list-style-type: none"> <li>➤ Using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>➤ Applying their increasing knowledge of mental and written methods</li> <li>➤ Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> </ul>	<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 (<math>=</math>) 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 contexts.</li> </ul>
<p><b>Number - Fractions</b></p>	<p><b>Measurement</b></p>
<ul style="list-style-type: none"> <li>➤ Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math>, and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity.</li> <li>➤ 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>	<ul style="list-style-type: none"> <li>➤ 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, thermometers and measuring vessels.</li> <li>➤ Compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul>

	<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 amounts of money.</li> <li>➤ Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</li> <li>➤ Compare and sequence intervals of time.</li> <li>➤ 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>➤ Know the number of minutes in an hour and the number of hours in a day.</li> </ul>
<p><b>Geometry: Properties of Shapes</b></p>	<p><b>Geometry: Position and Direction</b></p>
<ul style="list-style-type: none"> <li>➤ Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>➤ Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</li> <li>➤ Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].</li> <li>➤ Compare and sort common 2-D and 3-D shapes and everyday objects.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Order and arrange combinations of mathematical objects in patterns and sequences.</li> <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>
<p><b>Statistics</b></p>	
<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>	

## Year 3

<b>Number: Number and Place Value</b>	<b>Number: Multiplication and Division</b>
<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 up to 1000</li> <li>➤ Identify, represent and estimate numbers using different representations</li> <li>➤ Read and write numbers up to 1000 in numerals and in words</li> <li>➤ Solve number problems and practical problems involving these ideas.</li> </ul>	<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 n objects are connected to m objects.</li> </ul>
<b>Number: Addition and Subtraction: Add and subtract numbers mentally, including:</b>	<b>Number - Fractions</b>
<ul style="list-style-type: none"> <li>➤ A three-digit number and ones</li> <li>➤ A three-digit number and tens</li> <li>➤ A three-digit number and hundreds</li> <li>➤ Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> <li>➤ Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> <li>➤ Estimate the answer to a calculation and use inverse operations to check answers</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: unit fractions and non-unit fractions with small denominators</li> <li>➤ Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</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 [for example, <math>5/7 + 1/7 = 6/7</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>
<b>Measurement</b>	<b>Geometry: Properties of Shapes</b>
<ul style="list-style-type: none"> <li>➤ Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li>➤ Measure the perimeter of simple 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>➤ Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> <li>➤ Recognise angles as a property of shape or a description of a turn</li> </ul>

<ul style="list-style-type: none"> <li>➤ Add and subtract amounts of money to give change, using both £ and p in practical contexts</li> <li>➤ 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>➤ 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>➤ Know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>➤ Compare durations of events [for example to calculate the time taken by particular events or tasks].</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 and vertical lines and pairs of perpendicular and parallel lines.</li> </ul>
<p><b>Statistics</b></p>	
<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 [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</li> </ul>	

## Year 4

<p><b>Number: Number and Place Value</b></p> <ul style="list-style-type: none"> <li>➤ Count in multiples of 6, 7, 9, 25 and 1000.</li> <li>➤ Find 1000 more or less than a given number.</li> <li>➤ Count backwards through zero to include negative numbers.</li> <li>➤ Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).</li> <li>➤ Order and compare numbers beyond 1000.</li> <li>➤ Identify, represent and estimate numbers using different representations.</li> <li>➤ Round any number to the nearest 10, 100 or 1000.</li> <li>➤ Solve number and practical problems that involve all of the above and with increasingly large positive numbers.</li> <li>➤ 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.</li> </ul>	<p><b>Number: Multiplication and Division</b></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 problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects.</li> </ul>
<p><b>Number: Addition and Subtraction</b></p> <ul style="list-style-type: none"> <li>➤ Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>➤ Estimate and use inverse operations to check answers to a calculation</li> <li>➤ Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>	<p><b>Number: Fractions</b></p> <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 one hundred and dividing tenths by ten.</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 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> </ul>

	<ul style="list-style-type: none"> <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 decimal places.</li> </ul>
<b>Measurement</b>	<b>Geometry: Properties of Shapes</b>
<ul style="list-style-type: none"> <li>➤ Convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li>➤ Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li>➤ Find the area of rectilinear shapes by counting squares</li> <li>➤ Estimate, compare and calculate different measures, including money in pounds and pence</li> <li>➤ Read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>➤ Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>➤ Identify acute and obtuse angles and compare and order angles up to two right angles by size</li> <li>➤ Identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>➤ Complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul>
<b>Geometry: Position and Direction</b>	<b>Statistics</b>
<ul style="list-style-type: none"> <li>➤ Describe positions on a 2-D 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>➤ Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</li> <li>➤ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>



## Year 5

<b>Number: Number and Place Value</b>	<b>Number: Multiplication and Division</b>
<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 or 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.</li> <li>➤ Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</li> <li>➤ Solve number problems and practical problems that involve all of the above.</li> <li>➤ Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</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 (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> <li>➤ 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>➤ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>➤ Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).</li> <li>➤ Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</li> <li>➤ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li> <li>➤ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>
<b>Number: Addition and Subtraction</b>	<b>Number: Fractions</b>
<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>➤ Add and subtract numbers mentally with increasingly large numbers.</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, represented visually, including tenths and hundredths.</li> </ul>

<ul style="list-style-type: none"> <li>➤ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> <li>➤ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1\ 1/5</math>].</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, supported by materials and diagrams.</li> <li>➤ Read and write decimal numbers as fractions [for example, <math>0.71 = 71/100</math>].</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 understand that per cent relates to 'number of parts per hundred', 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>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math>, and those fractions with a denominator of a multiple of 10 or 25.</li> </ul>
<p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>➤ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</li> <li>➤ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</li> <li>➤ Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>➤ 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> </ul>	<p><b>Geometry: Properties of Shapes</b></p> <ul style="list-style-type: none"> <li>➤ Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</li> <li>➤ Use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>➤ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>➤ Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</li> <li>➤ Draw given angles and measure them in degrees (<math>^\circ</math>).</li> <li>➤ Identify angles at a point and one whole turn (total <math>360^\circ</math>).</li> </ul>

<ul style="list-style-type: none"> <li>➤ Estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water].</li> <li>➤ Solve problems involving converting between units of time.</li> <li>➤ Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Identify angles at a point on a straight line and half a turn (total 180°).</li> <li>➤ Identify other multiples of 90°.</li> </ul>
<p><b>Geometry: Position and Direction</b></p>	<p><b>Statistics</b></p>
<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>	<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>

## Year 6

<b>Number: Number and Place Value</b>	<b>Number: Fractions</b>
<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 zero.</li> <li>➤ Solve number and practical problems that involve all of the above.</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>1/4 \times 1/2 = 1/8</math>].</li> <li>➤ Divide proper fractions by whole numbers [for example, <math>1/3 \div 2 = 1/6</math>].</li> <li>➤ Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>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> <li>➤ Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>
<b>Number: Addition, Subtraction, Multiplication and Division</b>	<b>Measurement</b>
<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> </ul>	<ul style="list-style-type: none"> <li>➤ Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three 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</li> </ul>

<ul style="list-style-type: none"> <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 four operations</li> <li>➤ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>➤ use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>	<p>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>➤ Convert between miles and kilometres.</li> <li>➤ Recognise that shapes with the same areas can have different perimeters and vice versa.</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>
<p><b>Geometry: Properties of Shapes</b></p>	<p><b>Geometry: Position and Direction</b></p>
<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> <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>	<ul style="list-style-type: none"> <li>➤ Describe positions on the full coordinate grid (all four quadrants).</li> <li>➤ Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul>
<p><b>Statistics</b></p>	<p><b>Ratio and Proportion</b></p>
<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>	<ul style="list-style-type: none"> <li>➤ Solve problems involving the relative sizes of two 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> </ul>

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|  | <p>➤ Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> |
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