

**Year 6 Maths Curriculum Overview**

<b><u>Curriculum Strand</u></b>	<b><u>Learning Objectives</u></b>	<b><u>Areas of Fluency</u></b>
<b>Number Place Value</b>	<ul style="list-style-type: none"> <li>• Read numbers up to 10 000 000 and determine the value of each digit</li> <li>• Write numbers up to 10 000 000 and determine the value of each digit</li> <li>• Compare numbers up to 10 000 000 and determine the value of each digit</li> <li>• Order numbers up to 10 000 000, including decimals numbers, 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</li> <li>• Calculate intervals across zero</li> <li>• Round answers to a specified degree of accuracy, for example, to the nearest 10, 20, 50, etc</li> <li>• Solve number and practical problems that involve all of the above</li> <li>• To generate and describe a linear sequence from a given rule.</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>• Compare numbers to at least 10 000 000</li> <li>• Calculate intervals across zero</li> <li>• Round any whole number to a required degree of accuracy</li> <li>• Count forwards with positive and negative whole numbers, including through zero</li> </ul>
<b>Number Addition and Subtraction</b>	<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> <li>• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Number bonds to 10 000 000</li> <li>• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>
<b>Number Multiplication</b>	<ul style="list-style-type: none"> <li>• Continue to recall <math>\times</math> and <math>\div</math> facts up to <math>12 \times 12</math></li> <li>• Identify common factors, common multiples and prime numbers</li> <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>• Multiply one-digit numbers with up to two decimal places by whole numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to recall <math>\times</math> and <math>\div</math> facts up to <math>12 \times 12</math></li> <li>• Derive related facts using knowledge of place value</li> <li>• Undertake mental calculations with increasingly large numbers and more complex calculations</li> <li>• Identify common factors, common multiples and prime numbers</li> </ul>

<b>Number Division</b>	<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, including answers up to two decimal places.</li> <li>• Interpret remainders as whole number remainders, fractions, decimals or by rounding, as appropriate for the context</li> <li>• Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division</li> <li>• Calculate and interpret the mean as an average</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to recall <math>\div</math> facts up to <math>12 \times 12</math></li> <li>• Derive related facts using knowledge of place value</li> <li>• Undertake mental calculations with increasingly large numbers and more complex calculations</li> </ul>
<b>Number Fractions</b>	<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>4 \frac{1}{2} \times 2 \frac{1}{3} = 8 \frac{1}{3}</math>]</li> <li>• Divide proper fractions by whole numbers [for example, <math>3 \frac{1}{2} \div 2 = 6 \frac{1}{4}</math>]</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> </ul>	<ul style="list-style-type: none"> <li>• Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>4 \frac{1}{2} \times 2 \frac{1}{3} = 8 \frac{1}{3}</math>]</li> </ul>
<b>Number Decimals</b>	<ul style="list-style-type: none"> <li>• Order whole and decimal numbers</li> <li>• Identify the value of each digit in numbers given to three decimal places Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li> <li>• Round answers to decimal values</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Number Percentages</b>	<ul style="list-style-type: none"> <li>• Find % of a number</li> <li>• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> <li>• Pupils link percentages or <math>360^\circ</math> to calculating angles of pie charts</li> </ul>	<ul style="list-style-type: none"> <li>• Recall equivalences for tenths, 0.25, 0.5, 0.75, 1</li> </ul>

<p><b>Number Problem Solving</b></p>	<ul style="list-style-type: none"> <li>• Perform mental calculations, including with mixed operations and large numbers</li> <li>• Explore the order of operations using brackets; for example, <math>2 + 1 \times 3 = 5</math> and <math>(2 + 1) \times 3 = 9</math>.</li> <li>• Use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>• Solve problems involving addition, subtraction, multiplication and division</li> <li>• Solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</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> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p><b>Measures</b></p>	<ul style="list-style-type: none"> <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 three decimal places</li> <li>• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>• Calculate the area of parallelograms and triangles</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, 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>	<ul style="list-style-type: none"> <li>• Read and write standards units</li> <li>• Convert between standard units</li> </ul>

<p><b>Geometry Properties of Shape</b></p>	<ul style="list-style-type: none"> <li>• Draw 2-D shapes using given dimensions and angles using conventional markings for parallels and angles</li> <li>• Compare and classify geometric shapes based on their properties and sizes</li> <li>• Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>• Use angle sum facts and other properties to make deductions about missing angles in any triangles, quadrilaterals, and regular polygons and relate them to missing angle problems</li> <li>• Express missing angles using algebraic formulas</li> <li>• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> <li>• Recognise, describe and build simple 3-D shapes, including making nets</li> </ul>	<ul style="list-style-type: none"> <li>• 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,</li> </ul>
<p><b>Geometry Position and Direction</b></p>	<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> <li>• Find missing coordinates across a coordinate plane</li> <li>• Find missing coordinates on unlabelled planes</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p><b>Algebra</b></p>	<ul style="list-style-type: none"> <li>• Express missing number problems algebraically</li> <li>• Find pairs of numbers that satisfy an equation with two unknowns</li> <li>• Enumerate possibilities of combinations of two variable.</li> <li>• Use different formulas to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Use simple formulae</li> </ul>
<p><b>Ratio and Proportion</b></p>	<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> </ul>	<ul style="list-style-type: none"> <li>• Pupils link percentages or <math>360^\circ</math> to calculating angles of pie charts</li> </ul>

	<ul style="list-style-type: none"> <li>• Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes).</li> <li>• Solve problems involving unequal quantities, for example, 'For every egg you need three spoonfuls of flour', '5/3 of the class are boys'.</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> <li>• Consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They might use the notation a:b to record their work.</li> </ul>	
<b>Statistics</b>	<ul style="list-style-type: none"> <li>• Interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>