

# Year 7

Students will build on their work at primary school, gaining fluency with increasingly more varied and challenging types of number. They will gain a strong grounding in geometric and algebraic skills, as well as having plenty of opportunity to develop as confident problem solvers, able to articulate their mathematical reasoning.

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
<b>Knowledge &amp; Skills Overview</b>	<p><b>Directed Numbers</b> + – × ÷ with directed numbers.</p> <p><b>Four Operations</b> + – × ÷ with decimals. Use of skills to solve problems.</p> <p><b>Algebra Introduction</b> Forming, simplifying, expanding &amp; factorising algebraic expressions.</p> <p><b>Rounding &amp; Estimation</b> Using rounding to find approximations to complex calculations.</p>	<p><b>Units of Measure</b> Measure lengths and angles accurately. Convert metric units.</p> <p><b>Prime Factors</b> Decompose numbers into their prime factors. Find and use the HCF and LCM.</p> <p><b>Fractions &amp; Decimals</b> Use the equivalence of fractions and decimals. Order and calculate fluently with fractions.</p>	<p><b>Presenting Data</b> Use a variety of graphs and charts to display data.</p> <p><b>2D and 3D Shapes</b> Geometric notation. Names and special properties of 2D and 3D shapes.</p> <p><b>Angle Facts &amp; Rules</b> Know the basic angle facts and use them to solve geometric problems</p>	<p><b>Solving Equations</b> Form and solve multi-step algebraic equations using formal balancing.</p> <p><b>Non-Calculator Percentages</b> Convert between fractions, decimals and percentages. Calculate confidently with percentages.</p> <p><b>Ratio</b> Understand how ratios are used to share quantities.</p>	<p><b>Ratio</b> Understand how ratios are used to share quantities.</p> <p><b>Sequences</b> Explore number patterns and sequences including Fibonacci. Express sequences algebraically.</p> <p><b>Averages</b> Compare sets of data using averages and measures of spread.</p>	<p><b>Perimeter &amp; Area</b> Find the area and perimeter of 2D shapes: rectangles, triangles, trapezia, circles.</p> <p><b>Transformations</b> Rotate, reflect, translate and enlarge 2D shapes on a coordinate grid.</p> <p><b>Presenting Data in Geography</b> Apply data presentation techniques linked to learning from the Geography curriculum</p>
<b>Opportunities for Recall &amp; Retrieval of Prior Learning</b>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Negative numbers</li> <li>Calculation + – × ÷</li> <li>Algebraic notation</li> <li>Place value</li> </ul>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Measuring and using units of measure</li> <li>Factors &amp; multiples</li> <li>Fractions &amp; decimals</li> </ul>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Pictograms &amp; charts</li> <li>Shapes &amp; their properties</li> <li>Measuring &amp; naming angles</li> </ul>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Algebraic notation</li> <li>Calculation + – × ÷</li> <li>Fraction &amp; Percentage equivalence</li> </ul>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Calculation + – × ÷</li> <li>Number patterns</li> <li>Mean, median &amp; mode average</li> </ul>	<p><b>From KS2</b></p> <ul style="list-style-type: none"> <li>Area of rectangles</li> <li>Units of measure</li> <li>Coordinates</li> <li>Pictograms &amp; charts</li> </ul>
	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Four operations when estimating</li> </ul>	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Four operations</li> <li>Link factors to algebraic factorising</li> </ul>	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Use of algebraic expressions to describe angle sums</li> </ul>	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Simplifying algebraic expressions</li> <li>Equation problems that use angles facts</li> <li>Fraction &amp; decimal equivalence</li> <li>HCF to simplify ratios</li> </ul>	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Four operations</li> <li>Fraction &amp; decimal equivalence</li> <li>Algebraic expressions</li> </ul>	<p><b>From Year 7</b></p> <ul style="list-style-type: none"> <li>Fractions, decimals, &amp; percentages within perimeter &amp; area problems</li> <li>Area and perimeter of transformed shapes</li> <li>2D shapes</li> <li>Presenting Data</li> </ul>