

Year 7

Students will build on their work from 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
Knowledge & Skills Overview	<p>Prime Factors Decompose numbers into their prime factors. Find and use the HCF and LCM.</p> <p>Directed Numbers Understand $+$ $-$ \times \div with directed numbers.</p> <p>Algebra Introduction Forming, simplifying, expanding & factorising algebraic expressions.</p>	<p>Ratio Understand how ratios are used to share quantities.</p> <p>Fractions & Decimals Use the equivalence of fractions and decimals. Order and calculate fluently with fractions</p> <p>Non-Calculator Percentages Convert between fractions, decimals and percentages. Calculate confidently with percentages.</p>	<p>Solving Equations Form and solve multi-step algebraic equations using formal balancing</p> <p>Rounding & Estimation Using rounding to find approximations to complex calculations.</p>	<p>Units of Measure Measure lengths & angles accurately. Convert metric units.</p> <p>Presenting Data Use a variety of graphs and charts to display data.</p> <p>Angle Facts & Rules Know the basic angle facts and use them to solve geometric problems.</p>	<p>Perimeter & Area Find the area and perimeter of 2D shapes: rectangles, triangles, trapezia, circles.</p> <p>Construction Constructing 2D shapes & nets of 3D shapes and understand their special properties</p>	<p>Averages Compare sets of data using averages and measures of spread.</p> <p>Transformations Rotate, reflect, translate and enlarge 2D shapes on a coordinate grid</p>
Opportunities for Recall & Retrieval of Prior Learning	<p>From KS2</p> <ul style="list-style-type: none"> • Factors & multiples • Negative numbers • Calculation $+$ $-$ \times \div • Algebraic notation • Place value 	<p>From KS2</p> <ul style="list-style-type: none"> • Fraction, decimal & percentage equivalence • Calculation with fractions 	<p>From KS2</p> <ul style="list-style-type: none"> • Basic equations • Place value • Rounding 	<p>From KS2</p> <ul style="list-style-type: none"> • Place value • $+$ $-$ \times \div numbers • Metric conversion • Knowledge of data charts & graphs • Basic angle facts • Units of measure 	<p>From KS2</p> <ul style="list-style-type: none"> • Understanding of Area & perimeter • $+$ $-$ \times \div numbers • Properties & names of 2D & 3D shapes 	<p>From KS2</p> <ul style="list-style-type: none"> • Mean, median & mode average • Coordinates
	<p>From Year 7</p> <ul style="list-style-type: none"> • Link prime factors with algebraic factorising • Use of directed numbers in algebraic expressions 	<p>From Year 7</p> <ul style="list-style-type: none"> • Use of prime factors with ratio & fraction simplification • Use of directed number skills with fraction calculations 	<p>From Year 7</p> <ul style="list-style-type: none"> • Directed numbers with equations • Simplifying expressions with equations • Four operations when estimating 	<p>From Year 7</p> <ul style="list-style-type: none"> • Use of ratio tables when converting metric units • Use of algebra expressions & equations with angle problems 	<p>From Year 7</p> <ul style="list-style-type: none"> • Use of algebra expressions with area & perimeter problems • Fractions, decimals, & percentages with perimeter & area • Use of a protractor 	<p>From Year 7</p> <ul style="list-style-type: none"> • Graphs & charts with Averages • Area & perimeter of transformed shapes