

# Year 9 – MATHEMATICS Programme of Study

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Ratio and Proportion</b></p> <ul style="list-style-type: none"> <li>Unit ratios</li> <li>Convert between ratios and equivalent fractions</li> <li>Solving problems involving ratio</li> <li>Combining ratio</li> </ul> <p><b>Pythagoras and Trigonometry</b></p> <ul style="list-style-type: none"> <li>Pythagoras problems in 3D</li> <li>Calculate side lengths and angles in right angles triangles using trigonometry</li> </ul> <p><b>Bearings</b></p> <ul style="list-style-type: none"> <li>Draw, measure and calculate bearings</li> </ul> <p><b>Standard Form</b></p> <ul style="list-style-type: none"> <li>Write large and small numbers in standard form</li> <li>Compare and order numbers in standard form</li> </ul> <p><b><u>Milestone Assessment:</u> Numeracy</b></p>	<p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>Frequency polygons / Stem and leaf diagrams</li> <li>Calculate averages from diagrams and from grouped frequency tables.</li> <li>Cumulative Frequency Graphs and Box Plots (Higher only)</li> </ul> <p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>Factorise quadratic expressions</li> <li>Substitution</li> </ul> <p><b>3D solids</b></p> <ul style="list-style-type: none"> <li>Volume/surface area of pyramids and spheres</li> </ul> <p><b>Percentages</b></p> <ul style="list-style-type: none"> <li>Financial maths</li> <li>Reverse percentages</li> </ul> <p><b><u>Milestone Assessment:</u> Ratio</b></p>	<p><b>Constructions</b></p> <ul style="list-style-type: none"> <li>Drawing and measuring lines accurately</li> <li>Drawing triangles accurately with a protractor</li> <li>Drawing circles with a compass</li> <li>Perpendicular and angle bisectors</li> </ul> <p><b><u>Milestone Assessment:</u> End of KS3</b></p> <p><b>1 non-calculator paper</b></p> <p><b>1 calculator paper</b></p> <p><b>60 minutes each</b></p> <p><b>After the exams:</b></p> <ul style="list-style-type: none"> <li>Assessment feedback</li> <li>Responsive teaching (revisit weaker topics)</li> <li>Financial Maths Unit</li> </ul> <p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>Set notation</li> <li>Tree diagrams</li> <li>Venn diagrams</li> </ul>	<p><b>Graphs</b></p> <ul style="list-style-type: none"> <li>Gradient and distance between two points</li> <li>Find equation of a line between two points</li> <li>Gradient of a perpendicular line (Higher only)</li> </ul> <p><b>Number Types and Properties</b></p> <ul style="list-style-type: none"> <li>Rational and irrational numbers</li> <li>Reciprocals</li> <li>Surds (Higher only)</li> </ul> <p><b>Estimation</b></p> <ul style="list-style-type: none"> <li>Estimate calculations</li> <li>Bounds</li> <li>Calculations with bounds (higher only)</li> </ul> <p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>Simultaneous Equations</li> </ul> <p><b><u>Milestone Assessment:</u></b></p>	<p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>Represent inequalities on a number line</li> <li>Solving inequalities</li> </ul> <p><b>3D shapes</b></p> <ul style="list-style-type: none"> <li>Use isometric paper to draw cuboids</li> <li>Plans and elevations</li> <li>Nets</li> </ul> <p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>Time Series</li> <li>Sampling methods</li> <li>Capture-recapture (Higher only)</li> <li>Moving averages</li> </ul> <p><b><u>Milestone Assessment:</u> Algebra</b></p>	<p><b>Compound Measures</b></p> <ul style="list-style-type: none"> <li>Density and pressure calculations</li> <li>Distance time graphs</li> </ul> <p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>Linear graphs recap</li> <li>Plot quadratic and cubic graphs</li> <li>Plot reciprocal and exponential graphs (Higher only)</li> </ul> <p><b>1 non-calculator paper</b></p> <p><b>1 calculator paper</b></p> <p><b>50 minutes each</b></p> <p><b>After the exams:</b></p> <ul style="list-style-type: none"> <li>Assessment feedback</li> <li>Responsive teaching (revisit weaker topics)</li> </ul> <p><b>Fractions and Decimals</b></p> <ul style="list-style-type: none"> <li>Terminating and recurring decimals</li> <li>Convert between recurring decimals and fractions (higher only)</li> </ul>