

# Year 8 – MATHEMATICS Programme of Study

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Number Types and Properties</b></p> <ul style="list-style-type: none"> <li>• Prime factors</li> <li>• Highest common factors/Lowest multiples</li> </ul> <p><b>Estimation</b></p> <ul style="list-style-type: none"> <li>• Rounding to significant figures</li> <li>• Estimating calculations</li> </ul> <p><b>Angles</b></p> <ul style="list-style-type: none"> <li>• Internal and external angles of polygons</li> </ul> <p><b>Fractions</b></p> <ul style="list-style-type: none"> <li>• Convert between improper and mixed fractions</li> <li>• Four operations</li> </ul> <p><b>Scatter Graphs</b></p> <ul style="list-style-type: none"> <li>• Draw scatter graphs and lines of best fit</li> <li>• Identify correlation</li> </ul> <p><b><u>Milestone Assessment:</u> Numeracy</b></p>	<p><b>Percentages</b></p> <ul style="list-style-type: none"> <li>• Percentage increase and decrease</li> <li>• Percentage change</li> </ul> <p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>• Expanding brackets</li> <li>• Simplify expressions</li> <li>• Solve equations</li> <li>• Substitution</li> <li>• Rearrange formulae</li> </ul> <p><b>Graphs</b></p> <ul style="list-style-type: none"> <li>• Horizontal and vertical lines</li> <li>• Diagonal lines (<math>y = mx+c</math>)</li> </ul> <p><b>Pythagoras</b></p> <ul style="list-style-type: none"> <li>• Find missing lengths</li> <li>• Solve problems in 3D</li> </ul> <p><b><u>Milestone Assessment:</u> End of term non-calculator</b></p>	<p><b>Constructions</b></p> <ul style="list-style-type: none"> <li>• Angle bisector &amp; perpendicular bisector</li> <li>• Loci</li> </ul> <p><b>Sequences</b></p> <ul style="list-style-type: none"> <li>• Fibonacci sequences</li> <li>• Linear sequences</li> <li>• Simple quadratic sequences</li> </ul> <p><b>Angles</b></p> <ul style="list-style-type: none"> <li>• Parallel lines</li> </ul> <p><b>Indices</b></p> <ul style="list-style-type: none"> <li>• Multiplying powers in the same base</li> <li>• Dividing powers in the same base</li> <li>• Powers of powers in the same base</li> </ul> <p><b>Averages</b></p> <ul style="list-style-type: none"> <li>• Mean, mode, median and range</li> </ul> <p><b><u>Milestone Assessment:</u> Algebra</b></p>	<p><b>Circles</b></p> <ul style="list-style-type: none"> <li>• Circumference</li> <li>• Area</li> <li>• Sectors</li> <li>• Cylinders</li> </ul> <p><b>Ratio and Proportion</b></p> <ul style="list-style-type: none"> <li>• Simplify ratios</li> <li>• Divide a quantity in a ratio</li> <li>• Direct proportion</li> </ul> <p><b><u>Milestone Assessment:</u> End of term calculator</b></p>	<p><b>Similarity and Congruence</b></p> <ul style="list-style-type: none"> <li>• Identify congruent shapes</li> <li>• Identify similar shapes</li> <li>• Find side lengths in similar shapes</li> </ul> <p><b>Measures</b></p> <ul style="list-style-type: none"> <li>• Convert metric units of length, mass, capacity</li> <li>• Convert between metric and imperial units</li> <li>• Draw and use conversion graphs</li> </ul> <p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>• Two way tables</li> <li>• Frequency trees</li> <li>• Venn diagrams</li> </ul> <p><b>Speed</b></p> <ul style="list-style-type: none"> <li>• Calculations</li> <li>• Distance-time graphs</li> </ul> <p><b><u>Milestone Assessment:</u> Shape</b></p>	<p><b>Probability</b></p> <ul style="list-style-type: none"> <li>• Systematic listing strategies</li> <li>• Sample space diagrams</li> <li>• Calculating probabilities from venn diagrams</li> <li>• Tree diagrams</li> </ul> <p><b>Transformations</b></p> <ul style="list-style-type: none"> <li>• Translation of shapes</li> <li>• Rotation around a point</li> <li>• Reflection in a mirror line</li> <li>• Describing transformations</li> </ul> <p><b><u>Milestone Assessment:</u> End of year calculator</b></p>