

# Mathematics

We want all our students to become competent Mathematicians. This means we want them to be able to communicate mathematical ideas effectively using accurate mathematical language and solve problems by choosing and applying the correct mathematical techniques.

We follow a mastery approach, with conceptual understanding, problem solving and mathematical literacy at the heart of what we do.

Students learn new ideas with reference to ideas they already know. This means that within units of learning and across the whole curriculum, new knowledge builds upon what has come before.

Students are taught to work systematically, to generalise, to classify, to make their own conjectures and ultimately not to see Mathematics as a separate set of topics, but to understand the connections that bind Mathematics together.

Our Mathematics curriculum is based around five strands:

- Ratio, proportion and rates of change
- Number
- Algebra
- Statistics and probability
- Geometry and measures

Year	Assessment Cycle 1	Assessment Cycle 2
7	<ul style="list-style-type: none"> <li>• Number system</li> <li>• Expressions equations and inequalities</li> </ul>	<ul style="list-style-type: none"> <li>• Area</li> <li>• Coordinate geometry</li> <li>• Transforming shapes</li> <li>• Ratio</li> <li>• Fractions and percentages</li> </ul>
8	<ul style="list-style-type: none"> <li>• Accuracy and estimation</li> <li>• Sequences</li> <li>• Equations and inequalities</li> <li>• Linear graphs</li> <li>• Real life graphs</li> <li>• Direct and indirect proportion</li> </ul>	<ul style="list-style-type: none"> <li>• Univariate and bivariate data</li> <li>• Angles in polygons</li> <li>• Algebra : Simplifying and writing expressions</li> <li>• Circles</li> </ul>
9	<ul style="list-style-type: none"> <li>• Combined events</li> <li>• Venn diagrams and sets</li> <li>• Simultaneous equations</li> <li>• Pythagoras theorem</li> <li>• Constructions and loci</li> </ul>	<ul style="list-style-type: none"> <li>• Similarity</li> <li>• Trigonometry</li> <li>• Quadratic functions</li> <li>• Indices, surds and standard form</li> </ul>
10	<ul style="list-style-type: none"> <li>• Negative numbers and decimals,</li> <li>• Indices</li> <li>• Fractions, decimals and percentages</li> <li>• Expressions</li> <li>• Formulae</li> <li>• Equations and inequalities</li> <li>• Sequences</li> <li>• Charts and graphs</li> <li>• Averages</li> <li>• Angles</li> </ul>	<ul style="list-style-type: none"> <li>• Linear and real life graphs</li> <li>• Accuracy of Measurement</li> <li>• Transformations</li> <li>• Perimeter, area and volume</li> <li>• Right angled triangles</li> <li>• Direct and indirect proportion</li> <li>• Ratio</li> </ul>
11	<ul style="list-style-type: none"> <li>• Reciprocals</li> <li>• Standard form</li> <li>• Quadratic functions</li> <li>• Non-linear graphs</li> </ul>	Following the first mock assessment each class follows a bespoke curriculum to meet the needs of the class.

	<ul style="list-style-type: none"> <li>• Simultaneous equations</li> <li>• Plans and elevations</li> <li>• Constructions and loci</li> <li>• Circles</li> <li>• Volume</li> <li>• Similarity</li> <li>• Vectors .</li> <li>• Probability</li> <li>• Multiplicative reasoning</li> </ul>	
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