



### Curriculum Intent

#### Subject: Mathematics

#### Year 9

	Topics	Why?	National Curriculum Links
Term 1-1	Number calculations Measures and area Expressions	<ul style="list-style-type: none"> <li>- Year 9 will begin to solve more complicated number problems in the context of geometry.</li> <li>- Students will be able to use prior knowledge of algebra from year 7 and 8 to assist them to expand brackets.</li> <li>- By understanding the basics of algebra students are more confident applying the basic methods to other areas of the curriculum, notably geometry and the turning points of curved graphs.</li> <li>- By knowing the formulas of 2d shapes students can expand and learn the formulas for more irregular shapes.</li> </ul>	<ul style="list-style-type: none"> <li>• BIDMAS</li> <li>• Inverse Operations</li> <li>• Area formula</li> <li>• Algebraic manipulation</li> </ul>
Term 1-2	Fractions decimals and percentages Angles and 2D shapes Graphs	<ul style="list-style-type: none"> <li>- Students will further their understanding of rates of change by applying prior percentage work to financial problems.</li> <li>- By understanding the basics of algebra students are more confident applying the basic methods to other areas of the curriculum, notably geometry and the turning points of curved graphs.</li> <li>- Year 9 will investigate relationships between interior and exterior angles in polygons, and use angle knowledge from the previous 2 years to calculate angles of increasing complexity.</li> </ul>	<ul style="list-style-type: none"> <li>• FDP equivalence</li> <li>• Rates of change</li> <li>• Angle facts</li> <li>• Drawing graphs</li> <li>• Parallel and perpendicular graphs</li> </ul>
Term 2-1	Statistics Exam Recap	<ul style="list-style-type: none"> <li>- Year 9 will develop their understanding of displaying data by looking at other charts and graphs, for example histograms. Students will make informed decisions about the data collection cycle and how this impacts real world business problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Statistical diagrams</li> <li>• Averages</li> </ul>
Term 2-2	Equations Construction and Pythagoras	<ul style="list-style-type: none"> <li>- By year 9 students will be applying their understanding of algebra to more complicated equations, including quadratics. Students will be drawing linear and quadratic graphs. They find new ways of solving equations, and introducing multiple solutions.</li> <li>- Students will learn about the more practical side of the maths course by creating compass and ruler constructions, and understanding the importance of accurate drawing.</li> </ul>	<ul style="list-style-type: none"> <li>• Forming and solving equations</li> <li>• Quadratic equations</li> <li>• Pythagoras</li> <li>• Accurate constructions</li> </ul>
Term 3-1	3D shapes and trigonometry Ratio and proportion	<ul style="list-style-type: none"> <li>- Students will develop their knowledge of properties of 3D shapes, and apply their algebraic understanding to problem solve in geometry. Higher ability students will be introduced to trigonometry, and it's importance in the real world.</li> </ul>	<ul style="list-style-type: none"> <li>• Properties of shapes</li> <li>• Trigonometric functions</li> <li>• Proportion</li> </ul>
Term 3-2	Probability Sequences	<ul style="list-style-type: none"> <li>- Students will consolidate an understanding of probability concepts, including probability of combined events and using a sample space. Sequences as a stand alone topic relies on proper algebra work and serves as an interesting end to year 9.</li> </ul>	<ul style="list-style-type: none"> <li>• Probability of events</li> <li>• Sample spaces</li> <li>• Linear sequences</li> </ul>