



Key Stage 4

September 2021- July 2022

Students continue to meet the National Curriculum by following the White Rose Maths Scheme for their year group. The content being taught at each stage is progressively more difficult with the same units, but to different depth, being taught at the same time. Progress is fluid with progression maps of each key skill available to help the class teacher to consolidate and extend during lessons as needed. This curriculum has taken into account the effects of Covid and is for one year only.

Subject: Maths	Components Meeting the GCSE programme of study		Composite	Mission Statement
	What new knowledge do we introduce?		What do the students do with this knowledge?	By the end of yr 11 a Sybil Andrews Maths student
	Year 10	Year 11		
Autumn	Congruency, similarity & enlargement Trigonometry & (H advanced trigonometry) Representing solutions of equations & inequalities Simultaneous equations	Solving simple equations (H solving more complex equations) Indices (H Proof) Pythagoras & Trigonometry (H advanced Trigonometry) Handling data (H cumulative frequency, Histograms & box plots)	Students are progressively expected to give in depth reasoning and rationale as to why they have reached certain conclusions, with advanced/confident mathematicians being able to give alternative methods and strategies for solving a problem. All students will need comprehensive working to demonstrate understanding.	Completing Higher Tier will: ...appreciate the importance of mathematics as a discipline and will enjoy studying the subject and articulating their learning. They will be firmly on track to achieve the highest grades at GCSE. They will have a secure understanding of the fundamental building blocks of mathematics and be able to apply their knowledge to a range of

		<p>Transformations (H Transformations of graphs)</p> <p>Solving equations (H quadratic inequalities, circles)</p>	<p>The levels of application that students practice and develop result in them using mathematics more confidently in everyday life and in applying mathematics to other contexts and subjects. Students are expected to apply their knowledge to examination problems on a regular basis and are exposed to the need to think in an analytical way.</p>	<p>contexts. They will appreciate the importance of maths in real life and how it can be used in different careers. They will have been introduced to increasingly difficult mathematical knowledge. They will be able to reason and apply their knowledge to various contexts ready to study mathematics in the future.</p> <p>Completing Foundation Tier: ...will appreciate the importance of mathematics as a discipline and will enjoy studying the subject. They will be on track to achieve the expected standard or higher at GCSE. They will have a well-developed understanding of the fundamental building blocks of mathematics. Increasingly, they will be able to reason and apply their knowledge to various contexts. They will appreciate the importance of maths in real life and how it can be used in different careers.</p>
Spring	<p>Angles & bearings</p> <p>Working with circles</p> <p>Vectors</p> <p>Ratios & fractions</p> <p>Percentages & interest</p> <p>Probability</p>	<p>Number work</p> <p>Constructions (H congruence proof)</p> <p>Vectors</p> <p>Percentages</p> <p>Ratio & compound measures</p>		
Summer	<p>Collecting, representing & interpreting data</p> <p>Non calculator methods</p> <p>Types of number & sequences</p> <p>Indices & roots</p>	<p>Linear & geometric sequences (H quadratic sequences)</p> <p>Loci & constructions</p> <p>Standard form (H 3D Trig & surds)</p> <p>Straight line graphs Real life graphs</p> <p>Area & volume</p> <p>Angles</p>		

	<p>How is challenge embedded into the KS4 curriculum?</p> <p>Students are encouraged each lesson by their teacher to aim to extend their learning by engaging in discussions about their topic. Mathematical reasoning is explicitly developed and encouraged during lessons.</p> <p>Challenge is implemented through greater depth rather than acceleration through content. Examples of how this is achieved are through applying their reasoning and mathematical skills to a range of contexts.</p> <p>Use of learning platforms such as, www.hegartymaths.com give students a number of options to stretch and challenge themselves independently.</p>		<p>How does the KS4 curriculum above build on prior knowledge from KS3 and adequately prepare the student for KS5?</p> <p>The main purpose of our Key Stage 4 curriculum is to prepare students for the academic rigour of the GCSE qualification.</p> <p>Our Key Stage 4 curriculum takes the core skills developed during KS3 and places further emphasis on application and reasoning whilst also introducing and interleaving increasingly difficult mathematical content.</p> <p>This approach allows for a deeper understanding of mathematical topics and allows students to feel confident in applying knowledge in a number of ways.</p> <p>For those students considering further study at KS5 the curriculum has the necessary challenge to develop articulate young mathematicians.</p>	

