



Intent for the Year 11 Mathematics Curriculum 2021-2022

All children will experience a well-balanced and comprehensive curriculum that enhances informed, intellectual, developmental and moral character. As a result, this will improve life chances, inter-personal relationships, social mobility and preparedness for employment. Our curriculum will encourage everyone to have a positive impact on society.

Intention:

Students develop knowledge, understanding and skills in all 6 strands of the Mathematics curriculum – number, algebra, proportional reasoning, geometry, probability and statistics, building upon their experience from year 10 and KS3. All students will develop skills for work and vocational development and be able to apply these skills to everyday and contextual situations and acquire tools to help understand, interact and interrogate the social and political world around them. Through the year students will develop problem solving strategies and enhance their creative thinking skills. They will be encouraged to develop an appreciation of the subject, and understand that the study of mathematics is an intellectual endeavour in its own right. They will fully understand the importance of a qualification in Mathematics as a gateway to future learning and improved life chances and to consider what careers the study of maths could lead to.

Implementation:

Considering prior learning and stage of development students are taught in three ability pathways – Higher Plus, Higher and Foundation. Maths is delivered in 4 hour long lessons each week. The content for this year group, in all pathways, progresses on from year 10 and each unit provides opportunities to consolidate, retrieve and fill gaps in prior learning as well as introducing new learning. The maths curriculum has a spiral nature where students frequently re-visit and extend learning in all aspect of the curriculum, during the year and across all 5 years at Haygrove.

Curriculum adaptations as a result of the pandemic:

The results of the end of year assessments and content from year 9 scheme of work will form the basis of space retrieval starters which will be used to review, revise and practice key skills from year 9 and the current year 10 as the year progresses.

Pathway	Term	Topics and skills:	Key Outcomes:	Character Education:	Assessment:	Vocabulary:	Home-Learning:
Higher Plus	1a	<ul style="list-style-type: none"> • Quadratic sequences • Vectors • Quadratic functions • Advanced trigonometry • Histograms 	<p>Extend understanding of the number system, making connections between number, algebra and graphs</p> <p>Develop mathematical knowledge through solving problems and evaluation outcomes including multistep</p>	Through the delivery of our Maths curriculum we endeavour to develop the	Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid memory retrieval and to close learning gaps.	Tier 3 vocabulary (maths specific vocabulary) is taught in each individual unit of work.	<p>Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning (interleaving task) or be a flipped learning task.</p> <p>The home learning task may be a written task or may be a task</p>



	<p>1b</p> <ul style="list-style-type: none"> Equations of circles Extended graph work 	<p>problems and financial mathematics</p> <p>Select appropriate concepts, methods and techniques and apply them to familiar and non-routine problems</p>	<p>following character traits:</p> <ul style="list-style-type: none"> Responsible Curious Respectful Honest Compassionate Creative Resilient Confident Reflective 	<p>Formative assessment takes every lesson as part of good quality teaching using a variety of assessment for learning techniques.</p> <p>End of unit questions are used to check understanding and application skills taught.</p> <p>Summative assessment: Students sit two rounds of HCSE (mock) exams in the Autumn and Spring terms. All student sit GCSE Maths in the Summer term.</p>	<p>Tier 2 vocabulary is defined and explained to promote greater understanding of texts used in contextual questions.</p>	<p>completed on an online learning platform (e.g. Hegarty maths)</p> <p>There is an increasing demand on students to organise their own revision programs as the year progresses and as the GCSE period approaches the expectation for home learning increases but is supported by revision session and intervention</p>
Higher	<p>1a</p> <ul style="list-style-type: none"> Rearranging formulae Vector arithmetic Solving quadratics 	<p>Extend understanding of the number system, making connections between number, algebra and graphs</p> <p>Develop mathematical knowledge through solving problems and evaluation outcomes including multistep problems and financial mathematics</p>	<p>Through the delivery of our Maths curriculum we endeavour to develop the following character traits:</p> <ul style="list-style-type: none"> Responsible Curious Respectful Honest Compassionate Creative Resilient Confident Reflective 	<p>Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid memory retrieval and to close learning gaps.</p> <p>Formative assessment takes every lesson as part of good quality teaching using a variety of assessment for learning techniques.</p> <p>End of unit questions are used to check understanding and application skills taught.</p> <p>Summative assessment: Students sit two rounds of HCSE (mock) exams in the Autumn and Spring terms. All student sit GCSE Maths in the Summer term.</p>	<p>Tier 3 vocabulary (maths specific vocabulary) is taught in each individual unit of work.</p> <p>Tier 2 vocabulary is defined and explained to promote greater understanding of texts used in contextual questions.</p>	<p>Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning (interleaving task) or be a flipped learning task.</p> <p>The home learning task may be a written task or may be a task completed on an online learning platform (e.g. Hegarty maths)</p> <p>There is an increasing demand on students to organise their own revision programs as the year progresses and as the GCSE period approaches the expectation for home learning increases but is supported by revision session and intervention</p>
	<p>1b</p> <ul style="list-style-type: none"> Graphical solutions Quadratic sequences 	<p>Select appropriate concepts, methods and techniques and apply them to familiar and non-routine problems</p> <p>Reason deductively in geometry, number and algebra and begin to express arguments formally</p> <p>Move freely between different numerical, algebraic, graphical and diagrammatic representations</p>				
	<p>2a</p> <ul style="list-style-type: none"> Exam practice <p>2b</p> <ul style="list-style-type: none"> Revision <p>3a</p> <ul style="list-style-type: none"> Past papers completion 					



Foundation	1a	<ul style="list-style-type: none"> • Standard form • Rearranging formulae • Distance time calculations and graphs • Quadratic graphs • Vector arithmetic 	<p>Consolidate their numerical and mathematical capability from KS3 and extend understanding of the number system and place value.</p> <p>Select and use appropriate calculation strategies to solve increasingly challenging problems</p>	<p>Through the delivery of our Maths curriculum we endeavour to develop the following character traits:</p> <ul style="list-style-type: none"> • Responsible • Curious • Respectful • Honest • Compassionate • Creative • Resilient • Confident • Reflective 	<p>Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid memory retrieval and to close learning gaps.</p> <p>Formative assessment takes every lesson as part of good quality teaching using a variety of assessment for learning techniques.</p> <p>End of unit questions are used to check understanding and application skills taught.</p> <p>Summative assessment: Students sit two rounds of HCSE (mock) exams in the Autumn and Spring terms. All student sit GCSE Maths in the Summer term.</p>	<p>Tier 3 vocabulary (maths specific vocabulary) is taught in each individual unit of work.</p> <p>Tier 2 vocabulary is defined and explained to promote greater understanding of texts used in contextual questions.</p>	<p>Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning (interleaving task) or be a flipped learning task.</p> <p>The home learning task may be a written task or may be a task completed on an online learning platform (e.g. Hegarty maths)</p> <p>There is an increasing demand on students to organise their own revision programs as the year progresses and as the GCSE period approaches the expectation for home learning increases but is supported by revision session and intervention</p>
	1b	<ul style="list-style-type: none"> • Quadratic expressions and equations • Probability • Trigonometry • Simultaneous equations 	<p>Start to use algebra to generalise arithmetic and relationships, and begin to become confident in manipulating algebra and solve equation</p> <p>Develop mathematical knowledge through solving problems including multistep problems and financial mathematics</p>				
	2a	<ul style="list-style-type: none"> • Exam practice 	<p>Begin to move freely between different numerical, algebraic, graphical and diagrammatic representations</p>				
	2b	<ul style="list-style-type: none"> • Revision 					
3a	<ul style="list-style-type: none"> • Past papers completion 						

Impact:

Students will have consolidated prior learning, closed gaps in lost learning and deepened their knowledge of mathematics. They will have experienced a variety of contexts showing where maths is used in the world around them including the workplace. They will have had the opportunity to apply their skills to both familiar and unfamiliar situations and improved their problem-solving skills. They will have had the opportunity to practice exam standard questions to prepare them for the GCSE examination. They will increasingly come to see the use of maths, and a qualification in maths, in enhancing their futures.