



Intent for the Year 8 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 7. All students will develop numeracy skills and be able to apply these to everyday and unfamiliar situations and acquire tools to help understand and interact with the world around them. They will begin to have an appreciation of the contribution maths makes to the world of work. Through the year students will develop problem solving strategies and enhance their creative thinking skills. They will be encouraged to develop a curiosity and an appreciation of the subject and understand that the study of mathematics is an intellectual endeavour in its own right.

Implementation:

Considering prior learning and stage of development students are taught in three ability pathways - Plus, Core and Star. Maths is delivered in 4 hour long lessons each week. The content for this year group, in all pathways, progresses on from year 7 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 7 scheme of work will form the basis of space retrieval starters which will be used to review, revise and practice key skills from year 7 and the current year 8 as the year progresses.

Pathw	Term	Topics and skills:	Key Outcomes:	Character Education	Assessment:	Vocabulary:	Home-Learning:
Plus	1a	<ul style="list-style-type: none"> • Significant figures and estimating • Construction • Expanding brackets and factorising expressions • Indices 	<p>Consolidate their numerical and mathematical capability from year 7 and extend understanding of the number system and place value.</p> <p>Select and use appropriate calculation strategies to solve</p>	<p>Through the delivery of our Maths curriculum we endeavour to develop the following character traits:</p>	<p>Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid</p>	<p>Tier 3 vocabulary (maths specific vocabulary) is taught in</p>	<p>Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning</p>



	1b	<ul style="list-style-type: none"> • Converting metric units including compound units • Set Theory • Prime factors – HCF, LCM • Scales, maps and bearings 	<p>problems and extend knowledge of ratio and proportion</p> <p>Use algebra to generalise arithmetic and express relationships, substitute and solve equations</p> <p>Use language and properties to analyse shape and statistics</p> <p>Begin to reason deductively in geometry and algebra</p> <p>Develop problem solving strategies and apply to unfamiliar and non-routine problems</p> <p>Begin to model situations mathematically using a range of representations</p>	<ul style="list-style-type: none"> • Responsible • Curious • Respectful • Honest • Compassionate • Creative • Resilient • Confident • Reflective 	<p>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 - For the first 4 half terms students will have a written assessment covering the content of the preceding half term and will contain interleaving questions on prior learning. There will be an end of year exam which will assess all content and application of learnt maths skills.</p>	<p>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>(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>		
	2a	<ul style="list-style-type: none"> • Real life graphs • Substitution • Fraction decimal and percentage conversion • Calculating with fractions including mixed numbers 							
	2b	<ul style="list-style-type: none"> • Surface area and volume of prisms including compound prisms • Ratio 							
	3a	<ul style="list-style-type: none"> • Angles in polygons • Relative frequency and expectation in probability • Forming and solving linear equations 							
	3b	<ul style="list-style-type: none"> • Proportion • Scatter graphs • Linear graphs – $y=mx+c$ • Personal Finance • Linear and quadratic sequences 							
Core	1a	<ul style="list-style-type: none"> • Rounding to decimal places and significant figures • Calculating with decimals • Construction • Simplifying expressions and expanding brackets 	<p>Consolidate their numerical and mathematical capability from year 7 and extend understanding of the number system and place value.</p>	<p>Through the delivery of our Maths curriculum we endeavour to develop</p>	<p>Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid</p>	<p>Tier 3 vocabulary (maths specific vocabulary) is taught in</p>	<p>Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning</p>		



	1b	<ul style="list-style-type: none"> Indices Converting between metric units Averages from tables 	Select and use appropriate calculation strategies to solve problems and extend knowledge of ratio and proportion	the following character traits: <ul style="list-style-type: none"> Responsible Curious Respectful Honest Compassionate Creative Resilient Confident Reflective 	memory retrieval and to close learning gaps. Formative assessment takes every lesson as part of good quality teaching using a variety of assessment for learning techniques. End of unit questions are used to check understanding and application skills taught.	each individual unit of work. Tier 2 vocabulary is defined and explained to promote greater understanding of texts used in contextual questions.	(interleaving task) or be a flipped learning task. The home learning task may be a written task or may be a task completed on an online learning platform (e.g. Hegarty maths)
	2a	<ul style="list-style-type: none"> Prime factors HCF, LCM Forming expressions Circumference and area of circles 	Use algebra to generalise arithmetic and express relationships, substitute and solve equations				
	2b	<ul style="list-style-type: none"> Substitution Area of 2D and volume of prisms Fraction, decimal and percentage conversion Calculating with fractions (not mixed numbers) 	Use language and properties to analyse shape and statistics Begin to reason deductively in geometry				
	3a	<ul style="list-style-type: none"> Ratio Angles rules - parallel line Probability 	Develop problem solving strategies and apply to unfamiliar problems				
	3b	<ul style="list-style-type: none"> Solving linear equations and inequalities Proportion – best value and recipes Stem and leaf and pie charts Personal finance 					
Star	1a	<ul style="list-style-type: none"> Rounding to decimal places Construction of triangles Collecting like terms 	Consolidate their numerical and mathematical capability from year 7 and extend understanding of the number system and place value.	Through the delivery of our Maths curriculum we endeavour to develop the following character traits:	Interleaving every lesson will start with a spaced retrieval starter which aims to identify gaps in knowledge, aid	Tier 3 vocabulary (maths specific vocabulary) is taught in	Students will have a weekly home learning task which will either consolidate or extend current learning, revise prior learning
	1b	<ul style="list-style-type: none"> Sequences Metric units Data collection 					



2a	<ul style="list-style-type: none"> • Calculation • Squares, cubes, primes • Congruency and similarity • Real life graphs 	<p>Select and use appropriate calculation strategies to solve problems</p> <p>Start to use algebra to generalise arithmetic and begin to solve equations</p> <p>Use language and properties to analyse shape and statistics</p> <p>Begin to reason deductively in geometry</p> <p>Develop problem solving strategies and apply to unfamiliar problems</p>	<ul style="list-style-type: none"> • Responsible • Curious • Respectful • Honest • Compassionate • Creative • Resilient • Confident • Reflective 	<p>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 - For the first 4 half terms students will have a written assessment covering the content of the preceding half term and will contain interleaving questions on prior learning. There will be an end of year exam which will assess all content and application of learnt maths skills.</p>	<p>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>(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>
2b	<ul style="list-style-type: none"> • Simple substitution • Area and perimeter of rectangles, triangles and compound shapes 					
3a	<ul style="list-style-type: none"> • Calculation with directed number • Angle rules basic • Probability – equally likely outcomes 					
3b	<ul style="list-style-type: none"> • Solving simple linear equations • Fractions – simplifying, of a quantity, simple conversions • Averages and range • Personal finance 					

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 in the workplace. They will have had the opportunity to apply their skills to both familiar and unfamiliar situations and improved their problem-solving skills.