



Faculty: Maths

School's Curriculum Vision:

Hope Academy is a family, guided by Christian love, in which we serve our whole community with empathy and compassion, helping every member to flourish so all can pursue a rich and full life.

Our curriculum is designed to encourage a love of life-long learning, guided by the ultimate Christian value of love. We work to ensure that our curriculum makes our school's vision a reality and that every member of our Hope family can flourish and be the best that they can be.

Subject Vision:

'To inspire a love for mathematics and develop lifelong skills; to enable all to serve themselves and others.'

At Hope, we believe all students are capable of success in Mathematics, and as such teach our students through a challenging curriculum that promotes mathematical thinking.

Through a carefully sequenced five- year journey, students will begin by building foundations in their mathematical understanding. Each year, they will develop and increase their depth of understanding, while meeting new concepts and ideas to take learning to the next level.

There are five main strands that form the Mathematics curriculum: Number, Algebra, Geometry & Measure, Statistics & Probability and Ratio & Proportion. The structure of our curriculum highlights the links across these strands so students should see how the smaller ideas and concepts fit together to form the bigger picture of Mathematics. Students move through the five-year journey whilst embedding the following three objectives consistently. These are fluency, reasoning and problem solving. This ensures that students can; explore and practice new concepts, reason both written and verbally and are able to present work mathematically in the correct way and to solve problem by applying their secured knowledge.

Outside of the classroom, we offer a range of activities to students to nurture their passion for the subject. We participate in the UKMT Maths Challenges across all key stages, there is a Maths club at Key Stage 3 and we run a number of trips to enhance the experience for students.

Subject Curriculum Mapping – Overview

KS3 CURRICULUM		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Topic	Algebraic Thinking	Place Value and Proportion	Applications of number	Directed number and fractional thinking	Lines and Angles	Reasoning with number
	National Curriculum references & links	4.1.1.1, 4.1.1.2, 4.1.1.3 4.1.2.1, 4.1.3.1, 1.4.1.1, 1.4.1.2, 1.4.1.3, 1.4.1.4, 1.4.1.5, 1.4.1.6, 1.4.2.1, 2.2.1.2	1.1.1.1, 1.1.1.2, 1.1.1.3, 1.1.1.4, 1.1.3.1, 1.3.1.1, 1.3.1.2, 1.3.3.1, 1.3.2.2, 5.1.1.2, 5.1.1.4	2.1.1.1, 2.1.1.2, 2.1.2.1, 2.1.2.3, 2.1.2.4, 6.2.1.1,	1.3.2.1, 2.1.1.1, 2.2.2.1, 2.1.2.1, 1.1.3.1, 1.3.1.2,1.3.1.5, 2.1.3.1, 2.1.3.2	6.1.1.2, 6.1.1.4, 5.1.2.2, 6.1.1.1, 6.1.1.3	1.1.4.2, 2.1.5.6, 1.3.1.6, 5.3.1.1, 5.3.1.2, 5.3.1.3, 5.3.2.1, 5.3.2.2, 1.2.1.1, 1.2.1.2, 1.2.3.1, 1.2.3.2, 1.2.3.3, 1.2.3.4, 1.2.3.5
	Summative Assessment Hope Academy Assessment Model.docx Subject Assessment Model Overviews	End of topic CATs	End of topic	End of topic End of term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic
	Formative Assessment Hope Academy Assessment Model.docx Subject Assessment Model Overviews	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment
<p>Intent & Rationale:</p> <p>Y7 Intent & Rationale:</p> <p>In Year 7 students focus on developing their knowledge of algebra, number and geometry. Students develop key skills and understanding that they can then develop throughout the key stages. At the beginning of Y7 students began to explore the foundations of algebra exploring sequences, algebraic notations and equality and equivalence in preparation for working with equations in year 8. Students then build upon their knowledge of number including place value, fractions, calculations, decimals and percentages, this provides an opportunity to review the KS2 programme of study and allows teachers to provide scaffold and challenge for all learners. Towards the end of the year 7 programme of study students have an opportunity to embed the learning so far in year 7 within lines and angles. This ensure that learning is coherent, and students are able to develop mathematical fluency. This development will provide a key foundation for the year 8 programme of study and prepare students for success.</p>							
<p>Reading & Literacy:</p> <p>References to key texts/books throughout the year that students are exposed to - Literary Canon Audit</p>							

KS3 CURRICULUM		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 8	Topic	Proportional reasoning	Representations	Algebraic Techniques	Developing number	Developing Geometry	Reasoning with data
	National Curriculum references & links	3.1.1.1, 3.1.1.2, 3.1.3.1, 3.1.4.1, 3.1.4.1, 3.1.4.2, 3.1.4.3, 3.1.2.1, 3.1.2.1, 6.1.2.1, 2.1.4.1, 2.1.4.2, 2.1.4.3, 2.1.4.4, 2.1.4.5, 2.1.4.6, 2.1.4.7, 3.1.6.1, 6.2.1.2, 6.2.1.3	4.2.1.1, 4.2.1.2, 4.2.1.3, 4.2.1.4, 4.2.2.1, 4.2.2.2, 4.2.2.3, 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.1.4, 5.2.1.6, 5.2.1.7, 5.3.3.2, 5.3.3.3, 5.3.3.4	1.4.1.5, 1.4.1.6, 1.4.2.1, 1.4.3.1, 1.4.3.2, 1.4.3.3, 2.2.2.2, 2.2.3.1, 2.2.3.3, 2.2.4.1, 2.2.4.3, 4.1.2.2, 1.3.3.1, 1.3.3.2, 1.3.3.3	1.3.1.3, 1.3.2.3, 3.1.5.1, 3.1.5.2, 3.1.5.3, 3.1.5.4, 3.1.5.5, 1.3.3.1, 1.3.3.2, 1.3.3.3, 1.1.2.1, 1.1.2.2, 1.1.3.1, 1.1.3.2, 1.1.3.3, 1.1.4.1, 1.1.4.2, 1.1.4.4,	6.1.1.1, 6.1.1.2, 6.1.1.3, 6.1.1.4, 6.2.2.1, 6.2.2.2, 6.2.2.3, 6.2.2.4, 6.3.3.1, 6.3.3.2, 6.3.3.3	5.2.1.6, 5.2.2.1, 5.2.2.2, 5.2.2.3, 5.2.2.4, 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.1.4, 5.2.1.5
	Summative Assessment	End of topic End of half term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic
	Formative Assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment
	<p>Intent & Rationale: n Year 8, students initially focus on developing their reasoning skills with number and then apply this new learning to proportion. This includes developing understanding of ratio, conversions, and fractions. Students build upon small steps in learning allowing them to apply their new knowledge across the different areas of the curriculum. Students then build upon their knowledge of algebra exploring equations, inequalities, sequences, and indices. Students then move onto applying this new learning across fractions, percentages and standard form. Finally, students develop their geometry skills working with angles in parallel lines and area. This provides an opportunity to review the programme of study so far and allows teachers to provide scaffold and challenge for all learners. This ensure that learning is coherent, and students can develop mathematical fluency. This development will provide a key foundation for the year 9 programme of study and prepare students for success.</p> <p>Reading & Literacy: <i>References to key texts/books throughout the year that students are exposed to - Literary Canon Audit</i></p>						

KS3 CURRICULUM		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	Topic	Algebraic representations and measure of location	Reasoning with algebra. Constructing in 2d and 3d	Constructions and congruency and reasoning with number	Percentages and financial maths Rotation and translation	Pythagoras and trigonometry	Reasoning with proportion
	National Curriculum references & links	5.2.1.6, 5.2.2.1, 5.2.2.2, 5.2.2.4, 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.1.4, 5.2.1.5 4.2.3.3, 2.2.1.3, 2.2.1.4, 2.2.3.1, 2.2.3.3, 2.2.3.4, 2.2.4.2, 1.4.4.1, 1.4.4.2	6.2.2.5, 6.2.3.1, 6.2.3.2 4.2.2.1, 4.2.2.2, 4.2.2.3, 4.2.2.4,	6.4.1.1, 6.4.1.2, 6.4.2.1, 6.4.2.2, 6.4.2.3, 6.4.2.4, 6.4.2.5 1.2.3.4, 1.2.3.5, 1.3.1.4, 1.3.3.2, 1.3.3.3	3.1.5.1, 3.1.5.2, 3.1.5.3, 3.1.5.4, 3.1.5.5, 3.1.6.1, 6.3.1.1, 6.3.1.2, 6.3.1.3, 6.3.2.1, 6.3.2.2, 6.3.2.3	6.1.3.1, 6.1.3.2 G20	6.3.4.1, 6.3.4.2, 6.3.4.3, 6.3.4.4, 6.3.4.5, 6.1.2.1, 6.1.2.2, 3.1.6.2, 3.1.6.3, 3.1.4.4,
	Summative Assessment	End of topic End of half term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic
	Formative Assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment
<p>Y9 Intent & Rationale: In Year 9, students initially focus on developing their reasoning skills with data and algebra. This includes averages and representing and interpreting data. Students develop their reasoning skills with algebra building on their knowledge and skills from year 8. This includes new learning working with graphs, equations and formulae. understanding of ratio, conversions, and fractions. Students build upon small steps in learning allowing them to apply their new knowledge across the different areas of the curriculum. Students then build upon their knowledge of algebra exploring equations, inequalities, sequences, and indices. Students then move onto applying this new learning across fractions, percentages and standard form. Finally, students develop their geometry skills working with angles in parallel lines and area. This provides an opportunity to review the programme of study so far and allows teachers to provide scaffold and challenge for all learners. This ensure that learning is coherent, and students can develop mathematical fluency. This development will provide a key foundation for the year 9 programme of study and prepare students for success.</p>							
<p>Reading & Literacy: <i>References to key texts/books throughout the year that students are exposed to - Literary Canon Audit</i></p>							

KS4 CURRICULUM		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	Topic	Similarity and developing algebra	Developing algebra and geometry	Proportions and proportional change	Delving into data	Using and applying number	
	GCSE Specification Points	G7a-d, G19ab, G5a A17- A22	G15a-c, G20a-g, A3e, A17, A22a-f, A19a-c G9,G10 R2	R1-R8, R12 P3 -P9	S1-S6	N10-N12 R9	N4,N6.N7.N8, N13,N14,N15,N16
	Summative Assessment	End of topic End of half term (Cumulative)	End of topic	End of topic End of term (Cumulative)	End of topic	End of topic Mock exam	End of topic
	Formative Assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment	-Pre-requisite quiz - Key Step and Knowledge Organiser key question assessment
<p>Y10 Intent & Rationale:</p> <p>Study of the GCSE Maths curriculum formally begins at the start of Year 10 when all pupils begin the Edexcel Linear GCSE. New GCSE content is introduced whilst making use of and extending prior learning. At the start of each unit of work teachers will formatively assess current knowledge of the key skills required from KS3 that are necessary to access the new content. Pupils are regularly assessed to monitor progress and attainment and ensure they are meeting their potential. With each formal assessment we provide each pupil with feedback and lesson time to reflect and complete additional work on key topic areas. This allows teachers and pupils to accurately identify strengths and areas to focus on for review or reteaching. The curriculum is enriched by opportunities for mastery, along with high challenge and high expectations for all pupils and is designed so that all pupils:</p> <ul style="list-style-type: none"> -develop fluent knowledge, skills and understanding of mathematical methods and concepts -acquire, select and apply mathematical techniques to solve problems -reason mathematically, make deductions and inferences, and draw conclusions -comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context. 							
<p>Reading & Literacy:</p> <p>References to key texts/books throughout the year that students are exposed to - Literary Canon Audit</p>							

KS4 CURRICULUM		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11	Topic	Algebraic and geometric representations and reasoning	Data	Personalised revision			
	GCSE Specification Points	A8, A9, A10, A11, A12, A13, A14, A15, A17, A18a, A19, A20, A22,A23, A24 G14-G20, G24,G25	S1-s6				
	Summative Assessment		Mocks		Mocks		
	Formative Assessment	<i>Bi- weekly past papers</i>	<i>Bi- weekly past papers</i>	<i>Bi- weekly past papers</i>	<i>Bi- weekly past papers</i>		
<p>Y11 Intent & Rationale: In Year 11, students will continue building upon their understanding from year 10. Students will focus upon graphs, algebra and then developing their problem solving and reasoning skills. Students will spend time building upon previous knowledge allowing them to reach their potential. Students will complete mock exams in the autumn term which will give an indication of their progress so far and allow students to begin revision in any areas for development. Students will be expected to revise throughout the course of year 11. A decision will be made on whether students will sit foundation or higher near the end of the first term.</p>							
<p>Reading & Literacy: <i>References to key texts/books throughout the year that students are exposed to - Literary Canon Audit</i></p>							