Mathematics KS4 Curriculum Map						
A. Formal Curriculum Key Stage 4						
Core Content & Skills	By the end of KS4, we want all students of Mathematics to develop fluent knowledge, skills and understanding of mathematical methods and concepts. They should be able to acquire, select and apply mathematical techniques to solve problems while demonstrating resilience. They should also be able to reason mathematically, make deductions and inferences, and draw conclusions from differing scenarios or datasets. Students in Set 1 also study the L2 Further Maths qualification alongside the GCSE specification to stretch and challenge and prepare the way for A Level study of the subject.					
Prior Knowledge & Skills	In KS4, students of Mathematics will build on the following prior learning from KS3: Number, Fractions, Ratio & Proportion, Algebra, Geometry, Area & Volume, Probability, Statistics and Graphs.					
Future knowledge	The curriculum in KS4 Mathematics will provide a strong foundation for further academic and vocational study and for employment. It will also give students the appropriate mathematical skills, knowledge and understanding to help them progress to a full range of courses in further and higher education. This includes Level 3 mathematics courses as well as Level 3 and undergraduate courses in other disciplines such as the Sciences, Economics, Geography and Psychology, where the understanding and application of Mathematics is crucial.					
Year 11	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
		See Appendix for Unit Breakdown of GCSE content.					
	Key assessment points	Unit Tests	Unit Tests November Mocks	Unit Tests March Mocks	Unit Tests	Unit Tests	Unit Tests
Year 10	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
		See Appendix for Unit Breakdown of GCSE content.					
	Key assessment points	Unit Tests	Unit Tests	Unit Tests Internal Exams	Unit Tests	Unit Tests	Unit Tests
B. Holistic development via Enrichment/Personal Development Curriculum						
- UKMT events such as the Y10 Teams Challenge and Maths Feasts. - Maths in Finance event. - GeekFest.						

Mathematics KS3 Curriculum Map						
A. Formal Curriculum Key Stage 3						
Core Content & Skills	By the end of KS3, we want all students to become fluent in the fundamentals of Mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. They can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps.					
Prior Knowledge & Skills	In KS3, students of Mathematics will build on skills developed in primary school such as a sense of number, fluency in times tables, formal arithmetic and understanding of fractions. Although often taught at primary school, we make no assumptions about algebraic manipulation skills.					
Future knowledge	The curriculum in KS3 Mathematics will prepare students for further study of the GCSE specification as our topic-based mastery approach goes to GCSE depth and our Year 9 scheme of learning is woven into the KS4 curriculum of GCSE study.					
Year 9	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
		See Appendix for Unit Breakdown of GCSE content.					
	Key assessment points	Unit Tests	Unit Tests	Unit Tests	Unit Tests Internal Exam	Unit Tests	Unit Tests
Year 8	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
		Area/Volume (incl. Perimeter, Compound Areas, Volume of Prisms and Pyramids)	Probability (incl. Calculating Probability, Sample Space and Tree Diagrams)	Statistics (incl. Averages, Stem and Leaf, Graphical Representation)	Algebra (incl. Factorising and Solving Quadratics)	Graphs (incl. Function Machines, Gradient and Equation of a Straight Line Graph)	Number and Fractions (Consolidation of Y7 Content and Key GCSE Skills)
	Key assessment points	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Internal Exam
Year 7	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
		Number (incl. Long Multiplication and Division, Negative Numbers, Indices)	Fractions (incl. Equivalent Fractions, Arithmetic, Fractions of a Quantity)	Ratio / Proportion (incl. Percentages and Reverse Percentages, Direct Proportion)	Algebra (incl. Simplifying Expressions Substitution)	Algebra (incl. Expanding Brackets, Factorising, Solving Linear Equations)	Geometry (incl. Plans and Elevations, Angle Properties, Polygons, Constructions and Loci)
	Key assessment points	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Pre/Post Topic Test	Internal Exam
B. Holistic development via Enrichment/Personal Development Curriculum						
- Trips to Bletchley Park and The Deep.						
- GeekFest.						

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Appendix: Unit Breakdown of GCSE Content

The department is fortunate in being able to set learners according to mathematical ability. In order to ensure that students are both stretched appropriately and that they cover content at the correct pace, the GCSE course is separated into units with different sets spending different amounts of time on each unit, depending on difficulty and where they are most likely to perform well in the final examinations. Broadly speaking, there are three "streams" during Y9 through to Y11.

The units of learning are as follows:

Unit 1 and Unit 1A	Unit 2	Unit 3	Unit 4
Directed Numbers Factor trees, HCF, LCM Fractions Indices and Standard Form Decimals Rounding Ratio and Proportion Percentages	Working with Algebra Straight Line Graphs Simultaneous Equations Inequalities	Perimeter and Area Number Sequences Travel Graphs Angle Properties Polygon Angles Constructions Loci Bearings	Transformations Congruence and Similarity Pythagoras Trigonometry Circle Geometry Units, Measuring and Estimating 3D Shapes
Unit 5	**Unit 6**	**Unit 7**	**Unit 8**
Collecting Data Averages and Range Displaying Data Probability Direct and Inverse Proportion Calculator Techniques Upper and Lower Bounds	Surds Algebraic Fractions Rearranging Formulae Quadratic Equations Simultaneous Equations Exponential Growth & Decay Algebraic Proof Quadratic Inequalities	Vectors Sine Rule Cosine Rule Area of a Non Right-Angled Triangle Trigonometry in 3D Exact Trig Values Frustums Proof of Circle Angle Theorems Other Geometric Proofs	Iterative Methods nth term of Quadratic Sequences Rate of Change Perpendicular Gradients Tangents to Circles Trapezium Rule Frequency Trees Set Notation and Venn Diagrams Functions Sketching Graphs Graph Transformations

Depending on the academic texture of particular year groups, different sets move through the course at different pace but typical progress looks like this:

Set	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Y9 Set 1	Unit 1 Completed	Unit 1A Completed	Unit 2 Completed		Unit 3 Completed	
Y9 Sets 2 and 3		Units 1 and 1A Completed		Unit 2 Completed		Unit 3 Completed
Y9 Sets 4 and 5		Unit 1 Completed		Unit 2 Completed		
Y10 Set 1	Unit 4 Completed		Unit 5 Completed		Unit 6 Completed	
Y10 Sets 2b and 2g		Unit 4 Completed		Unit 5 Completed		Unit 6 Completed
Y10 Sets 3 to 5	Unit 3 Completed	Unit 4 Completed			Unit 5 Completed	
Y11 Set 1	Unit 7 Completed	Unit 8 Completed				
Y11 Sets 2b and 2g		Unit 7 Completed	Unit 8 Completed			
Y11 Sets 3 and 4	Unit 6 Completed		Unit 7 Completed	Unit 8 Completed		
Y11 Set 5		Unit 6 Completed	Preparation for Foundation Tier of Entry (Revision of Crossover Content and Tier Specific Content)			