

# Maths Curriculum Map

Key = matching colours denote links between topics either in content or skills across year groups and key stages.

	<b>Number</b>		<b>Probability</b>
	<b>Algebra</b>		<b>Statistics</b>
	<b>Ratio, proportion, and rates of change</b>		<b>EXTERNAL EXAMS</b>
	<b>Geometry and Measure</b>		

<b>KEY STAGE 3</b>	7	Algebraic Notation	Place Value	Addition and Subtraction	Multiplication and Division	Directed Number	Geometric Constructions and Reasoning	
		Sequences	Fractions, Decimals, & Percentage Equivalence	Prime numbers and Proof	Averages	Fractions and Percentages of Amounts	Addition and Subtraction of Fractions	Sets and Probability
	8	Number Sense	Sequences	Working in the cartesian plane	Brackets, Equations, and inequalities	Angles in parallel lines and polygons	Reflection and Symmetry	Representing Data
		Fractions and Percentages						
		Multiplying and Dividing fractions	Proportional Reasoning	Tables and Probability	Standard Index form	Area of trapezia and circles	Measures of location	
	9	Straight line graphs	Three dimensional shapes	Fractions and decimals	Forming and solving equations	Indices, Standard Form and Surds	Scatter Graphs	Accuracy and Bounds
		Algebraic Representation	Constructions and Congruency	Percentage Change	Pythagoras' Theorem	Rates and Measure	Transformations	Probabilities

By the end of KS3, students will become fluent in the fundamentals of mathematics. Students will have developed a conceptual understanding, and the ability to recall and apply knowledge. Students will be able to reason mathematically and develop an argument, justification, or proof using Mathematical language. Students will begin to make connections across the six areas of mathematics, as well as being able to apply their knowledge across other areas of the curriculum.

<b>KEY STAGE 4</b>	10F	Prime, Factors, and Multiples	Circles, Surface Area, and Volume	Geometric Constructions and Calculations	Fractions and Decimals	2D representations of 3D Shapes	Collecting, Representing and Analysing Data
		Algebraic Manipulation, Proof and Formulae	Pythagoras and Trigonometry	Direct and Inverse Proportion	Solving Equations	Indices and Standard Form	Inequalities and Equations
		Rounding and Accuracy		Percentage Change			Sequences
	10H	Algebraic Manipulation, Proof and Formulae	Constructions and Loci	Direct and Inverse Proportion	Algebraic Solution of Equations	Transformations	Collecting, Representing and Analysing Data
		Accuracy and Bounds	Circles, Spheres, and Pyramids	Percentage Change	Geometric Proofs	Indices and Standard Form and Surds	Scatter Graphs
		Pythagoras and Trigonometry	Probability	Fractions and Decimals		Sequences	
	11F	Vectors	Straight line graphs	Compound units	Similar figures	<b>REVISION and GCSE EXAMS</b>	
		Transformations	Functions and graphs	Geometry Review	Scatter Graphs		
	11H	Probability					
		Further trigonometry	Graphical solutions of equations	Compound units	Functions		
		2D representations of 3D shapes	Real world graphs	Inequalities	Graph Transformations		
		Graphs of functions	Similar figures	Circle theorems	Vectors		

By the end of KS4, students will have developed fluent knowledge, skills, and understanding of mathematical methods and concepts. They will have acquired problem solving skills, enabling them to select the correct mathematical techniques required. They will be able to interpret and communicate mathematical information, in a variety of forms, and be able to use and evaluate mathematical models. Students will be fluent in the selection and application of a variety of mathematical formulae and will be well prepared for further mathematical study.

	<b>Pure</b>
	<b>Statistics</b>
	<b>Mechanics</b>

<b>KEY STAGE 5</b>	<b>12</b>	Polynomials	Coordinate Geometry	Differentiation	Probability	Variable acceleration	Functions
		Using graphs	Triangle Geometry	Working with Data	Statistical Hypothesis Testing		
		Indices and Surds	Kinematics	Logarithms	Force and Motion	REVISION AND EXAMS	General Binomial Expansion
		Quadratics	Constant Acceleration	Exponentials	Objects in Contact		
		Proof	Trigonometric functions and equations	Binomial Expansion	Integration		
	Vectors						
	<b>13</b>	Rational Functions and Partial Fractions	Sequences and Series	Further transformations of graphs	Further Hypothesis testing	REVISION AND A LEVEL EXAMS	
		Binomial Expansion	Proof	Conditional Probability	Numerical Solutions of equations		
		Radians	Further Differentiation	Normal Distribution	Numerical Integration		
		Further Trigonometry	Further Integration	Differential Equations	Projectiles		
		Calculus of Exponential and Trigonometric Functions	Further Applications of Calculus	Applications of Vectors	Forces in Context Moments		

By the end of KS5, students will be fluent in the three over-arching strands of A Level Mathematics; proof, problem solving and mathematical modelling. Students will develop these skills across the three disciplines of pure maths, statistics, and mechanics, so that by the end of KS5 they will have extended their range of mathematical skills and techniques. They will have a clear understanding of how different areas of mathematics are connected and will be able to make logical and reasoned decisions in solving problems. Students will be able to use technology, where appropriate, and interpret and communicate their solutions effectively.