



Intent Statement

The Mathematics Department aims to help your child discover the joy and beauty of this fascinating and extremely rewarding subject. Our primary objective is to ensure all students develop a strong foundation in mathematical fluency and language, fostering confidence in problem-solving. Through our creative curriculum, which carefully weaves prior learning throughout the academic journey, we cultivate a love of learning and enhance students' ability to model and solve complex, non-routine problems using their mathematical knowledge.

Our curriculum extends beyond the standard specification, offering enriching experiences and activities accessible to all students, regardless of background. We nurture independence, critical thinking and enthusiasm through engaging lessons and diverse extra-curricular opportunities. These include Mathematics Inspiration lectures, inter-school Mathematics competitions and participation in the prestigious UKMT Mathematics Challenge.

In the Curriculum Overview below, topics are coloured according to the following strands:

- Pure
- Mechanics
- Statistics and Probability

		MICHAELMAS TERM	LENT TERM	SUMMER TERM
KEY STAGE 5	YEAR 12	<ul style="list-style-type: none"> - Surds and Indices - Quadratic functions and modelling - Linear graphs - Solving equations and inequalities - Inequalities on graphs - Modelling in Mechanics - Constant acceleration of particles - Statistical sampling - The large data set - Measures of location and spread - Curved graphs and transformations - Polynomial division and the factor theorem - Circles - Proof 	<ul style="list-style-type: none"> - Forces and Newton's laws of motion - Trigonometric ratios and their graphs - Differentiation - Radians - Integration - Statistical distributions - Variable acceleration - Trigonometric identities and equations - Solving equations with radians - Exponentials and logarithms 	<ul style="list-style-type: none"> - Forces and friction - Correlation and linear regression - Moments - Statistical modelling, PMCC and Hypothesis testing - Functions and graphs - Sequences and series



KING EDWARD VI ASTON GRAMMAR SCHOOL
MATHEMATICS
Curriculum Intent and Overview (A-level Mathematics)

		<ul style="list-style-type: none">- Binomial expansion with natural numbers- Vectors- Probability with Venn diagrams and tree diagrams		
	YEAR 13	<ul style="list-style-type: none">- Differentiation- Trigonometric functions and their inverses- Trigonometry and Modelling- Binomial expansion with rational numbers- Algebraic fractions and partial fractions- Numerical methods- Integration- Projectiles- Parametric equations	<ul style="list-style-type: none">- Representations of data- Further kinematics- The normal distribution- Applications of forces- Binomial hypothesis testing	Revision and A-level exams