

What I will learn about in

Mathematics

A Learning Journey at **Etone College**
'PROGRESS FOR ALL'



Year 13

Integration $\frac{dy}{dx} \iff \int y dx$ Sequences/Series
Binomial $\frac{dy}{dx}$ $\iff$ $\int y dx$ Conditional Probability
Differentiation Friction Projectiles Normal Distribution
Further Kinematics Functions Vectors
Numerical Methods Further Trigonometry
Application of Forces
Parametric Equations

Core Maths

Binomial Distribution
Student Loan Calculations
VAT Box Plots
Mortgages National Insurance
Measures of Central Tendency
Standard Deviation PMCC
Income Tax Chi-Squared
Spearman's Rank Regression
Histograms RPI and CPI

Year 12

Hypothesis Testing Circles Forces Acceleration Mechanical Modelling
Differentiation Binomial Distribution Variance Correlation Statistical Methods
Integration Exponentials and Logarithms Algebraic Methods Vectors Binomials
Algebraic Expressions Trigonometry Radians Correlation Moments Standard Deviation $\sqrt{\frac{\sum(x-\bar{x})^2}{n-1}}$

Year 11

Area of Compound Shapes Working with Ratio Applying Pythagoras Compound Percentage Change
Exchange Rates Circles Simultaneous Equations Upper and Lower Bounds Reverse Percentages Fractional Enlargements
Standard Form Bearings Functions Units of Measure FDP $-3x+5 \leq -16$ Estimating
Arcs and Sectors Surface Area Using a Calculator Changing the Subject Vectors Frequency Trees
Transformations Bisectors Cosine Rule Inequalities Circle Theorems Loci
Algebraic Proof Constructions Histograms SURDS Area Under a Curve Iteration
Probability using Sets Bounds Sine Rule Compound Measure

Year 10

Laws of Indices Properties of Special Quadrilaterals Pythagoras Theorem
Cumulative Frequency Time Series Factorise and Solve a Quadratic Equation from Two Points and Parallel
Scatter Graphs Trigonometry Factorise Expressions – Non-Quadratic
Index Numbers Histograms HCF and LCM using Venn Diagrams Perpendicular and Midpoints
Collecting Data Displaying Data Proportion Ratio Probability Averages and Spread $2, 2, 5, 6, 7, 8$

Year 9

Similarity and Pythagoras Non-Linear Relationships Trigonometry Standard Form
Probability $\begin{matrix} \text{Probability} & \text{Outcome} \\ \text{Branch} & \text{Head} \\ 0.5 & \\ 0.5 & \text{Tail} \end{matrix}$ Expressions and Formulae $\begin{matrix} \text{Coefficient} & \text{Variable} & \text{Constant} \\ 5x & + & 7 \\ \text{Term} & & \text{Term} \\ \hline \text{Expression} \end{matrix}$ Graphical Representations
Probability tree diagram, Pythagorean theorem diagram, and a coordinate plane with points $(-2,5), (2,5), (-1,2), (1,2), (0,1)$.

Year 8

Estimating and Rounding Linear Relationships Statistical Representations Angle Rules
Sequences Solving Linear Equations Percentages and Proportionality $\frac{1}{3} = \frac{2}{6}$ Perimeter, Area and Volume Constructions
A diagram of a quarter circle, a line graph, and a bar chart showing the fraction $\frac{1}{3} = \frac{2}{6}$.

Year 7

Place Value Integers and Decimals Perimeter and Area Ratio $2:3$
 Expressions and Equations Plotting Coordinates $\begin{matrix} y \\ 3 \\ 2 \\ 1 \\ 0 \\ -1 \\ -2 \\ -3 \\ x \end{matrix} \begin{matrix} (-3,1) \\ (-1.5,-2.5) \\ (0,0) \\ (2,3) \end{matrix}$ Fractions $\frac{2}{3}$ two thirds Transformations
A coordinate plane with points $(-3,1), (-1.5,-2.5), (0,0), (2,3)$ and a fraction $\frac{2}{3}$ represented by a circle divided into three parts with two shaded.

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Year 13

Integration	Sequences/Series	Numerical Methods	Further Trigonometry	Further Kinematics
Binomial $\frac{dy}{dx} \iff \int y dx$	Conditional Probability	Vectors	Normal Distribution	
Differentiation	Friction Projectiles	Functions	Parametric Equations	Application of Forces

Year 12

Hypothesis Testing	Binomial Distribution	Variable Acceleration	Mechanical Modelling	Statistical Methods
Differentiation	Variance Correlation	Algebraic Methods	Partial Fractions	Constant Acceleration
Integration	Exponentials and Logarithms	Correlation Moments	Quadratics	Probability
Algebraic Expressions	Trigonometry	Radians	Standard Deviation $\sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$	Graphs
			Vectors	Circles
				Binomials

Year 11

Area of Compound Shapes	Working with Ratio	Applying Pythagoras	Compound Percentage Change
Exchange Rates	Circles	Reverse Percentages	Loci
Standard Form	Factorise and Solve a Quadratic	FDP	Inequalities $-3x + 5 \leq -16$
Arcs and Sectors	Bearings	Using a Calculator	Changing the Subject
	Surface Area	Bisectors	Vectors
			Frequency Trees

Year 10 GCSE Statistics

Cumulative Frequency	Scatter Graphs	Time Series
Further Collecting Data	Further Averages/Spread	
Further Probability	Histograms	
Index Numbers	Probability Distributions	

Year 10 GCSE Mathematics

Laws of Indices	Application of Angle Rules
Properties of Special Quadrilaterals	Plotting a Quadratic Graph
Equation from Two Points and Parallel	Perpendicular and Midpoints
Factorise Expressions – Non-Quadratic	
HCF and LCM using Venn Diagrams	

Year 10

Collecting Data	Displaying Data	Probability	Averages and Spread
			$2, 2, 5, 6, 7, 8$

Year 9

Similarity and Pythagoras	Non-Linear Relationships	Expressions and Formulae	Trigonometry	Standard Form
Probability		$5x + 7$ Coefficient Variable Constant Term Term Expression		Graphical Representations

Year 8

Estimating and Rounding	Linear Relationships	Percentages and Proportionality	Statistical Representations	Angle Rules
Sequences		$\frac{1}{3} = \frac{2}{6}$	Perimeter, Area and Volume	Constructions

Year 7

Place Value	Integers and Decimals	Perimeter and Area	Ratio
			$2:3$
Properties of Number	Expressions and Equations	Fractions	Transformations
		$\frac{2}{3}$ two thirds	