

Maths Curriculum Long Term Planning

		Term 1	Term 2	Term 3
Year 7	Big Idea	Number as a Tool How does the way we structure and use numbers help us measure, describe, and make sense of the world?	Handling the Unknown How do we use symbols and mathematical rules to describe and solve problems involving unknowns or parts of a whole?	Relating the Parts to the Whole How do we use comparison and established rules to describe the structure, distribution, and composition of quantities and space?
	Key knowledge and skills	- Place Value - Calculations - Rounding - Area & Perimeter - Types of Number - Order of Operations - Averages	- Algebraic Notation & Manipulation - Substitution - Solving equations - Fractions of amounts - Equivalent fractions - Calculations with fractions - Mixed numbers & improper fractions	- Measuring & drawing angles - Angle rules - Calculating percentages. - Converting between fractions, decimals & percentages. - Simplifying ratio - Calculating with ratio. - Proportion
	End Point	Pupils can use place value, calculations, and rules to measure and interpret data accurately.	Pupils can use algebraic techniques and fraction rules to describe, manipulate, and solve for unknown values and parts of a whole.	Pupils can use angle rules to find missing parts of a shape and use ratio and proportion to distribute and compare quantities.

Year 8	Big Idea	Decoding the Future How do we collect, display, and analyse data to help us predict outcomes and make informed decisions?	Mapping and Making How do we use mathematical tools and rules to accurately represent, measure, and manipulate objects and spaces?	Finding What We Can't See How do we use mathematical rules and relationships to calculate hidden dimensions, rates, and unknown values?
	Key Knowledge and skills	• Representing data in graphs • Pie Charts • Scatter diagrams • Averages from tables • Probability • Probability of combined events • Frequency & Probability trees	• Transformations of shapes • Constructions & scale drawings • Area & circumference of circles • 3D Plans and elevations • Calculating volume and surface area	• Pythagoras' Theorem • Trigonometry • Speed, distance, time • Density, mass, volume • Simplifying expressions • Index laws • Expanding & factorising • Solving equations
	End Point	Pupils can visually represent data, calculate summaries, and use probability models to analyse relationships and predict combined outcomes.	Pupils can represent 3D objects using 2D plans, accurately measure area/volume, and manipulate shapes using scale and transformations.	Pupils can use algebraic techniques and geometric/composite formulas to calculate unknown values, rates, and hidden dimensions.

Year 9	Big Idea	Defining the World Precisely How do mathematical rules and structures help us measure, compare, and describe the size and position of things accurately?	Solving for the Unknown Space How do we use mathematical tools and symbols to find hidden dimensions or accurately describe the size and position of shapes?	Modelling the Real World How do we use mathematical tools to model, measure, and predict patterns, both in data and in physical objects?
	Key Knowledge and skills	• Place Value • Calculations • Rounding & limits of accuracy • Angle rules • Angles in polygons • Congruence & Similarity • Bearings • Representing data • Percentages • Fractions • FDP Conversion	• Substitution • Expanding & Factorising • Percentages • Area of 2D Shapes • Transformations of shapes • Pythagoras' Theorem • Trigonometry	• Scatter diagrams • Time-series graphs • Plans & Elevations • Volume & Surface Area • Sequences & Patterns • Exact Calculations
	End Point	Pupils can use numerical precision, geometric rules and proportional tools to accurately measure and describe the world.	Pupils can manipulate algebraic expressions and use geometric theorems to find unknown dimensions and describe spatial changes.	Pupils can create accurate models of 3D objects and data trends, using exact calculations to quantify volume and predict patterns.

Year 10 (Foundation)	Big Idea	Solving Within Limits How do we use mathematical rules to find unknown values and model chance while acknowledging the constraints and necessary approximations of the real world	The Mathematics of Comparison What are the fundamental tools needed to communicate the size of quantities and compare parts to a whole effectively?	Mapping Space and Chance What tools do we use to precisely describe the location of objects and the likelihood of combined events?
	Key Knowledge and skills	• Rounding & Estimation • Unit Conversion • Probability • Solving Equations • Simultaneous Equations • Inequalities • Circles • Construction	• Ratio • Percentages • Types of number • Indices • Fractions • Standard Form • Linear / Quadratic Graphs • Sequences	• Pythagoras • Trigonometry • Vectors • 3D Shapes • Venn diagrams • Tree diagrams • Compound measures • Similarity
	End Point	Pupils can find solutions within algebraic constraints, use probability to model chance, and ensure accuracy through rounding and construction.	Pupils can fluently use fractions, ratios, and indices to model and compare growth, scale, and relationships using both numbers and graphs.	Pupils can select and apply advanced rules to find unknown dimensions, rates, and probabilities in complex geometric and statistical systems.

Year 10 (Higher)	Big Idea	Modelling and Solving Systems	Predicting Patterns from Data and Rules	Rules of Relationship and Likelihood
		How do we use algebraic and geometric tools to precisely define, model, and solve multiple interconnected relationships?	How do we analyse numerical and visual patterns to predict outcomes, and how do we combine rules to create new predictive models?	What fixed rules define how shapes relate, how quantities combine, and how events depend on one another?
	Key Knowledge and skills	- Equations & Inequalities - Quadratics - Simultaneous Equations - Iterative Processes - Ratio & Proportion - Triangle Mensuration - Vectors	- Equations of straight lines - Quadratic Graphs - Real-life Graphs - Grouped data - Standard Form - Composite Functions	- Venn Diagrams - Tree Diagrams - Sequences - Compound measures - Similarity & Congruence
	End Point	Pupils can solve simultaneous, quadratic, and iterative systems, and use vectors and proportionality to model complex relationships.	Pupils can predict trends using linear/quadratic models and grouped data, combining function rules to solve complex problems across scales.	Pupils can apply fixed rules of similarity and congruence, use compound measures to relate quantities, and model dependent probability.

Year 11	Big Idea	Mathematical Synthesis and Mastery	The Cycle Of Improvement
	Key Knowledge and skills	• Number • Algebra • Ratio, proportion & rates of change • Geometry & Measures • Probability • Statistics	• Evaluation of weaknesses • Prioritise and improve • Fluency • Problem Solving • Effective revision • Resilience
	End Point	Pupils can fluently synthesise skills from all domains to solve complex, multi-step problems requiring mastery.	Pupils can confidently analyse their mathematical weaknesses, apply targeted strategies, and demonstrate resilience and fluency across all previously revised content.