YEAR 7-11
MATHEMATICS

YEAR GROUP	CURRICULUM
7	- Mode, Median and Range - Displaying Data - Grouping Data - Averages and Comparing Data - Line Graphs and more bar charts - Mental Maths - Addition and Subtraction - Multiplication and Division - Negative Numbers - Factors, Multiples and Primes - Square and Triangle Numbers - Functions - Simplifying Expressions - Writing Expressions - Writing Formulae - Decimals and Rounding - Length, Mass and Capacity - Scales and Coordinates - Perimeter and Area - Comparing Fractions - Simplifying Fractions - Fractions and Decimals - Understanding Percentages - Percentages of Amounts - The Language of Probability - Calculating Probability - Experimental Probability - Expected Outcomes - Direct Proportion - Writing Ratios - Using Ratios - Scales and Measures - Proportions and Fractions and Percentages - Lines, Angles and Triangles - Estimating, Measuring and Drawing Angles - Drawing Triangles Accurately - Calculating Angles - Angles in a Triangle - Quadrilaterals - Sequences and Patterns

	• Coordinates • Extending Sequences • Straight-line Graphs • Position to Term Rules • Congruency and Enlargements • Symmetry • Reflection • Rotation • Translations and Combined Transformations
8	• Calculations • Calculating with negative Numbers • Powers, Roots and Brackets • Multiples and Factors • Area of a Triangle • Area of a Parallelogram and Trapezium • Volume of Cubes and Cuboids • Surface Area of Cubes and Cuboids • Problems and Measures • Pie Charts • Using Tables • Stem and Leaf Diagrams • Comparing Data • Scatter Graphs • Misleading Graphs • Algebraic Powers • Expressions and Brackets • Factorising Expressions • One-step Equations • Two-step Equations • The Balancing Method • Conversion Graphs • Distance-time Graphs • Complex Line Graphs • Graphs of Functions • Real-life Graphs • Ordering Decimals and Rounding • Place-value Calculations • Calculations with Decimals • Ratio and Proportion with Decimals • Using Ratios • Quadrilaterals • Alternate angles and Proof • Geometrical Problems • Exterior and Interior Angles • Adding and Subtracting Fractions • Multiplying Fractions

	- Dividing Fractions - Fractions, Decimals and Reciprocals - Calculating with Mixed Numbers - Direct Proportion on Graphs - Gradients - Equations of Straight Lines - Direct Proportion Problems - Fractions and Decimals - Equivalent Proportions - Writing Percentages - Percentages of Amounts, Increases and Decreases - Solving Finance Problems
9	- Indices - Calculations and Estimates - Standard Form - Substituting into Expressions - Writing Expressions and Formulae - Using Formulae - Rules of Indices and Bracket - Expanding Double Brackets - Planning a Survey - Collecting Data - Calculating Averages - Displaying and Analysing Data - Enlargement - Negative and Fractional Scale Factors - Percentage Change - Rates of Change - Using Scales - Basic Constructions - Constructing Triangles - Loci - Solving Equations - Using Equations - Trial and improvement - Using and Solving Inequalities - Proportion - Simultaneous Equations - Circumference of a Circle - Area of a Circle - Pythagoras' Theorem - Prisms and Cylinders - Errors and Bounds - Nth Term of an Arithmetic Sequence - Non-linear Graphs - Graphing Rates of Change

	- Using Y=MX+C - More Straight-line Graphs - Graphs of Quadratic Equations - Non-linear Graphs - Calculating Probabilities - Experimental Probability - Probability Diagrams - Independent Events - Congruent and Similar Shapes - Ratios in Triangles - The Tangent Ratio - The Sine Ratio - The Cosine Ratio
10 FOUNDATION	- Number - Algebra the basics - Equations, Inequalities and Sequences - Angles - Averages - Perimeter Area and Volume - Graphs - Transformation - Ratio and Proportion - Probability - Multiplicative Reasoning
10 HIGHER	- Place Value and Estimating - HCF and LCM - Calculating with Powers (Indices) - Zero, negative and fractional Indices - Powers of 10 and standard form - Surds - Algebraic Indices - Expanding and Factorising - Equations - Formulae - Linear Sequences - Non Linear Sequences - Statistical diagrams 1 - Time series - Scatter Graphs - Line of best fit - Averages and Range - Statistical diagrams 2 - Fractions - Ratios - Ratio and Proportion - Percentages - Fractions, decimals and percentage

	- Angles in polygons - Pythagoras Theorem - Trigonometry 1 - Trigonometry 2 - Linear graphs - Graphing Rates of Change - Real Life Graphs - Line Segments - Quadratic graphs - Perimeter and Area - Units and accuracy - Prism - Circles - Sectors and Circles - Cylinders and Spheres - Pyramids and Cones - 3D Solids - Transformation - Bearings and Scale Drawings - Construction - Loci - Solving Quadratic Equations - Completing the Square - Solving Simultaneous equations - Solving Quadratic Simultaneous equations - Probability - Combined Events - Mutually exclusive events - Experimental Probability - Independent events and Tree Diagrams - Conditional Probability - Venn Diagrams and Set Notation - Multiplicative Reasoning - Growth and Decay - Compound Measures - Similarity and Congruence - Congruence - Geometric proof and congruence - Similarity - Similarity in 3D Solids - More Trigonometry - Exact Trigonometry Values - Further Trigonometry - 3D Trigonometry - Transformation of trigonometric graphs

11 FOUNDATION	• Algebra – the basics • Expanding and factorising single brackets • Expressions and substitution into formulae • Fractions • Fractions, decimals and percentages • Percentages • Quadratic equations – graphs • Quadratic equations – expanding and factorising • Real life graphs • Ratio • Indices and standard form • Similarity and congruence in 2D • Vectors • Rearranging equations • Graphs of reciprocal and cubic functions • Simultaneous equations • Question level analysis topics
11 HIGHER	• Circle theorems • Circle geometry • Algebra – simplification and substitution • Algebra – brackets • Algebra – factorise quadratics • Setting up and solving equations • Changing the subject • Algebraic fractions • Solving fractional equations • Rationalising surds • Function notation • Vectors and proof • Reciprocal and exponential graphs • Gradient and area under graphs • Direct and inverse proportion • Topics informed by question level analysis