

## Maths Department Long Term Plan 2018 - 2019

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	<ul style="list-style-type: none"> <li>Integers, Operations, Decimals and Negative Numbers</li> <li>BIDMAS</li> <li>Factors, Multiples and Primes</li> <li>Rounding</li> <li>Angles &amp; Parallel Lines</li> </ul>	<ul style="list-style-type: none"> <li>Algebraic Notation</li> <li>Simplifying and Expanding Expressions</li> <li>Substitution</li> <li>Solving Equations</li> <li>Sequences</li> </ul>	<ul style="list-style-type: none"> <li>Ratio notation and simplification</li> <li>Sharing in a ratio</li> <li>Four operations fractions</li> <li>Bearings and Scale Drawings</li> <li>Constructing Shapes</li> <li>Probability</li> </ul>	<ul style="list-style-type: none"> <li>Area &amp; Volume</li> <li>Area &amp; Volume in Context</li> <li>Distributions of a single variable - Graphical and Calculations</li> <li>Solving Equations</li> <li>Rearranging Formulae</li> <li>Equation of a straight Line</li> </ul>	<ul style="list-style-type: none"> <li>Powers and roots</li> <li>Percentages</li> <li>Using a calculator</li> <li>Transformations</li> <li>Ordering numbers</li> </ul>	<ul style="list-style-type: none"> <li>From the the end of year 7 exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>
Year 8	<ul style="list-style-type: none"> <li>Four operations fractions</li> <li>Percentages</li> <li>Fractions and percentages</li> <li>Terminating and recurring decimals</li> <li>Transformations</li> </ul>	<ul style="list-style-type: none"> <li>Rounding and Significant Figures</li> <li>Pythagoras' Theorem</li> <li>Trigonometry</li> <li>Factorising and Expanding Double Brackets</li> <li>Forming Expressions</li> </ul>	<ul style="list-style-type: none"> <li>Area &amp; Volume</li> <li>Inequalities</li> <li>Sequences</li> <li>Ratio multiplicative relationship</li> <li>Scale Factor, Diagrams and Maps</li> <li>Compound measures and rates of change</li> </ul>	<ul style="list-style-type: none"> <li>Unit Conversion (Including Imperial)</li> <li>Measures</li> <li>Constructing Shapes</li> <li>Angles &amp; Parallel Lines</li> <li>Sum of interior angles of regular Polygons</li> <li>Congruence and simple proofs</li> </ul>	<ul style="list-style-type: none"> <li>Two-Way Tables and Venn Diagrams</li> <li>Probability (including Sample Space)</li> <li>Direct and inverse proportion</li> <li>Substitution</li> <li>Plotting Linear and Quadratic Graphs</li> </ul>	<ul style="list-style-type: none"> <li>Equation of a straight line</li> <li>Plotting Cubic, Reciprocal and Exponential Graphs</li> <li>Simultaneous Equations</li> <li>Introduce the 6 rules of indices</li> <li>Standard Form</li> </ul>
Year 9 Higher	<ul style="list-style-type: none"> <li>Number problems and reasoning</li> <li>Place value and estimating</li> <li>Calculating with powers (indices)</li> <li>Zero, negative and fractional indices</li> <li>Powers of 10 and standard form</li> <li>Surds</li> </ul>	<ul style="list-style-type: none"> <li>Algebraic indices</li> <li>Expanding and factorising</li> <li>Equations and formulae</li> <li>Linear sequences and Non-linear sequences</li> <li>Statistical diagrams</li> <li>Time series</li> <li>Scatter graphs</li> </ul>	<ul style="list-style-type: none"> <li>Averages and range</li> <li>Two-Way Tables and Venn Diagrams</li> <li>Pie Charts</li> <li>Ratio and proportion</li> <li>Fractions</li> <li>Percentages</li> </ul>	<ul style="list-style-type: none"> <li>Angle properties of triangles and quadrilaterals</li> <li>Interior and Exterior angles of a polygon</li> <li>Pythagoras' Theorem</li> <li>Trigonometry</li> </ul>	<ul style="list-style-type: none"> <li>Linear graphs</li> <li>Graphing rates of change</li> <li>Real-life graphs</li> <li>Line segments</li> <li>Quadratic graphs</li> <li>Cubic and reciprocal graphs</li> </ul>	<ul style="list-style-type: none"> <li>Units and accuracy</li> <li>Prisms</li> <li>Sectors of circles</li> <li>Cylinders and spheres</li> <li>Pyramids and cones</li> <li>Transformations and constructions</li> <li>Bearings and scale drawings</li> <li>Loci</li> </ul>

Year 9 Foundation	<ul style="list-style-type: none"> <li>Calculations, Decimal numbers and Place value</li> <li>Squares, cubes and roots</li> <li>Index notation</li> <li>Factors and multiples</li> <li>Prime factors</li> </ul>	<ul style="list-style-type: none"> <li>Algebraic Expressions</li> <li>Expanding and factorising</li> <li>Equations and formulae</li> <li>Linear sequences</li> <li>Using expressions and formulae</li> <li>Frequency tables</li> <li>Two-Way Tables</li> </ul>	<ul style="list-style-type: none"> <li>Representing data</li> <li>Time series</li> <li>Stem and leaf diagrams</li> <li>Pie Charts</li> <li>Scatter graphs</li> <li>Fractions</li> <li>Percentages</li> </ul>	<ul style="list-style-type: none"> <li>Solving equations</li> <li>Introducing inequalities</li> <li>Generating sequences</li> <li>Using the nth term of a sequence</li> <li>Properties of shapes</li> <li>Angles in triangles</li> </ul>	<ul style="list-style-type: none"> <li>Properties of shapes</li> <li>Angles in parallel lines</li> <li>Angles in triangles</li> <li>Exterior and interior angles</li> <li>Geometrical patterns</li> </ul>	<ul style="list-style-type: none"> <li>Mean and range</li> <li>Mode, median and range</li> <li>Types of average</li> <li>Estimating the mean</li> <li>Sampling</li> </ul>
Year 10 Higher	<ul style="list-style-type: none"> <li>Solving quadratic equations</li> <li>Completing the square</li> <li>Solving linear and quadratic simultaneous equations</li> <li>Solving linear inequalities</li> <li>Quadratic Formula</li> </ul>	<ul style="list-style-type: none"> <li>Probability</li> <li>Mutually exclusive events</li> <li>Independent events and tree diagrams</li> <li>Conditional probability</li> <li>Venn diagrams and set notation</li> <li>Growth and decay</li> <li>Ratio and proportion</li> </ul>	<ul style="list-style-type: none"> <li>Geometric proof and congruence</li> <li>Similarity in 3D solids</li> <li>Graph of the sine and cosine function</li> <li>Calculating areas and the sine rule</li> <li>The cosine rule and 2D trigonometric problems</li> <li>Transforming trigonometric graphs</li> </ul>	<ul style="list-style-type: none"> <li>Sampling</li> <li>Cumulative frequency</li> <li>Box plots</li> <li>Drawing and interpreting histograms</li> <li>Comparing and describing populations</li> <li>Solving simultaneous equations graphically</li> <li>Graphs of quadratic and Cubic functions</li> </ul>	<ul style="list-style-type: none"> <li>Solving quadratic equations graphically</li> <li>Representing inequalities graphically</li> <li>Radii and chords</li> <li>Tangents</li> <li>Angles in circles</li> <li>Applying circle theorems</li> </ul>	<ul style="list-style-type: none"> <li>Rearranging formulae</li> <li>Algebraic fractions</li> <li>Simplifying algebraic fractions</li> <li>Surds</li> <li>Solving algebraic fraction equations</li> <li>Functions</li> <li>Proof</li> </ul>
Year 10 Foundation	<ul style="list-style-type: none"> <li>Rectangles, parallelograms and triangles</li> <li>Trapezia and changing units</li> <li>Area of compound shapes</li> <li>Surface area of 3D solids</li> <li>Volume of prisms</li> </ul>	<ul style="list-style-type: none"> <li>Coordinates</li> <li>Linear graphs</li> <li>Gradient</li> <li><math>y = mx + c</math></li> <li>Real-life graphs</li> <li>Distance-time graphs</li> <li>Transformations</li> <li>Combining transformations</li> </ul>	<ul style="list-style-type: none"> <li>Writing ratios</li> <li>Using ratios</li> <li>Ratios and measures</li> <li>Proportion and graphs</li> <li>Proportion problems</li> <li>Pythagoras' theorem</li> <li>Trigonometry</li> </ul>	<ul style="list-style-type: none"> <li>Calculating probability</li> <li>Experimental probability</li> <li>Venn diagrams</li> <li>Tree diagrams</li> <li>Constructions, loci and bearings</li> <li>Scale drawings and maps</li> <li>Plans and elevations</li> </ul>	<ul style="list-style-type: none"> <li>Expanding double brackets</li> <li>Plotting quadratic graphs</li> <li>Using quadratic graphs</li> <li>Factorising quadratic expressions</li> <li>Solving quadratic equations algebraically</li> </ul>	<ul style="list-style-type: none"> <li>Circumference of a circle</li> <li>Area of a circle</li> <li>Semicircles and sectors</li> <li>Composite 2D shapes and cylinders</li> <li>Pyramids and cones</li> <li>Spheres and composite solids</li> </ul>
Year 11	<ul style="list-style-type: none"> <li>From the the end of year 10 mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>	<ul style="list-style-type: none"> <li>From the the end of year 10 mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>	<ul style="list-style-type: none"> <li>From the Nov mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>	<ul style="list-style-type: none"> <li>From the Nov mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>	<ul style="list-style-type: none"> <li>From the March mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group</li> </ul>	<ul style="list-style-type: none"> <li>From the March mock exam analysis, each teacher will focus on the key topics needed for revision/ intervention within every individual group until the final exam</li> </ul>