



## Maths Curriculum Overview 2021 – 2022

<b>Department Name:</b>	Maths
<b>Head of Department:</b>	Mr G Williams
<b>Subject Teachers:</b>	Mr R Filtness Mr R Leadbetter Mrs S Thomson-Keohane Miss F Turner Miss L Taylor Mr S Graham Mrs A Uden Mr L charity Miss S Quirk Miss E Rice
<b>Accommodation and Resources:</b>	Nine classrooms equipped to accommodate class sizes of up to 30 pupils. Each classroom is stocked with appropriate textbooks, mathematical equipment and interactive whiteboards.

### What will students learn in each year?

<b>Year 7</b>	Term 1: <ul style="list-style-type: none"><li>• Sequences</li><li>• Algebraic notation</li><li>• Algebraic expressions</li><li>• Simplify expressions</li><li>• Linear equations</li></ul>
	Term 2: <ul style="list-style-type: none"><li>• Place value</li><li>• Fractions</li><li>• Fractions, decimals and percentages</li></ul>
	Term 3: <ul style="list-style-type: none"><li>• Mental calculations</li><li>• Written methods for addition and subtractions</li><li>• Tables and charts</li><li>• Written methods for multiplication and division</li><li>• Order of operations</li><li>• Perimeter and area</li><li>• Fraction calculations</li><li>• Percentage calculations</li></ul>

	<p>Term 4:</p> <ul style="list-style-type: none"> <li>• Negative numbers</li> <li>• Linear equations</li> <li>• Fractions</li> </ul>
	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• 2-D shape properties</li> <li>• Angle facts involving lines</li> <li>• Angle facts involving triangles and quadrilaterals</li> </ul>
	<p>Term 6:</p> <ul style="list-style-type: none"> <li>• Mental calculations</li> <li>• Theoretical probability</li> <li>• Factors, multiples and primes</li> <li>• Highest common factors and lowest common multiples</li> </ul>
<b>Year 8</b>	<p>Term 1:</p> <ul style="list-style-type: none"> <li>• Ratio</li> <li>• Direct proportion</li> <li>• Multiplying and dividing fractions</li> </ul>
	<p>Term 2:</p> <ul style="list-style-type: none"> <li>• Coordinates</li> <li>• Straight line graphs</li> <li>• Tables, charts and graphs</li> <li>• Probability</li> </ul>
	<p>Term 3:</p> <ul style="list-style-type: none"> <li>• Expressions, equations and formulae</li> <li>• Expand brackets</li> <li>• Solve linear equations</li> <li>• Inequalities</li> <li>• Sequences</li> <li>• Indices</li> </ul>
	<p>Term 4:</p> <ul style="list-style-type: none"> <li>• Fractions, decimals and percentages</li> <li>• Percentage calculations</li> <li>• Standard form</li> <li>• Rounding</li> <li>• Estimation</li> <li>• Measures</li> </ul>
	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• Properties of polygons including symmetry</li> <li>• Perimeter and area</li> <li>• Line symmetry and reflection</li> </ul>



	<p>Term 6:</p> <ul style="list-style-type: none"> <li>• Charts and graphs</li> <li>• Averages</li> <li>• Distribution of data sets</li> </ul>
<b>Year 9</b>	<p><b>Exam Board:</b> Pearson Edexcel  <b>Qualification:</b> GCSE Mathematics</p>
	<p>Term 1:</p> <ul style="list-style-type: none"> <li>• Integers &amp; place value</li> <li>• Decimals</li> <li>• Indices, powers and roots</li> </ul>
	<p>Term 2:</p> <ul style="list-style-type: none"> <li>• Factors, multiples and primes</li> <li>• Algebra: the basics</li> <li>• Expanding and factorising</li> </ul>
	<p>Term 3:</p> <ul style="list-style-type: none"> <li>• Substitution into formulae</li> <li>• Tables Charts and graphs</li> <li>• Pie charts</li> <li>• Scatter graphs</li> </ul>
	<p>Term 4:</p> <ul style="list-style-type: none"> <li>• Fraction calculations</li> <li>• Fractions, decimals and percentages</li> <li>• Percentage calculations</li> </ul>
	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• Equations</li> <li>• Inequalities</li> <li>• Sequences</li> </ul>
	<p>Term 6:</p> <ul style="list-style-type: none"> <li>• Properties of shapes</li> <li>• Parallel lines and angle facts</li> <li>• Interior and exterior angles of polygons</li> </ul>
<b>Year 10</b>	<p><b>Exam Board:</b> Pearson Edexcel  <b>Qualification:</b> GCSE Mathematics</p>
	<p>Term 1:</p> <ul style="list-style-type: none"> <li>• Statistics and sampling</li> <li>• The averages</li> <li>• Perimeter and area</li> </ul>
	<p>Term 2:</p> <ul style="list-style-type: none"> <li>• 3D forms and volume</li> <li>• Real-life graphs</li> <li>• Straight-line graphs</li> </ul>



	<p>Term 3:</p> <ul style="list-style-type: none"> <li>• Translations, rotations &amp; reflections</li> <li>• Enlargements &amp; combinations of transformations</li> <li>• Ratio</li> </ul>
	<p>Term 4:</p> <ul style="list-style-type: none"> <li>• Proportion</li> <li>• Pythagoras</li> <li>• Trigonometry</li> <li>• Probability I</li> </ul>
	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• Probability II</li> <li>• Multiplicative reasoning</li> <li>• Plans and elevations</li> </ul>
	<p>Term 6:</p> <ul style="list-style-type: none"> <li>• Constructions, loci and bearings</li> <li>• Quadratic equations: expanding and factorizing</li> <li>• Quadratic equations: graphs</li> </ul>
<b>Year 11</b>	<p><b>Exam Board:</b> Pearson Edexcel  <b>Qualification:</b> GCSE Mathematics</p>
	<p>Term 1:</p> <ul style="list-style-type: none"> <li>• Circles, cylinders, cones and spheres</li> <li>• Fractions and reciprocals</li> <li>• Indices and standard form</li> </ul>
	<p>Term 2:</p> <ul style="list-style-type: none"> <li>• Similarity and congruence in 2D</li> <li>• Vectors</li> <li>• Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations</li> </ul>
	<p>Term 3:</p> <ul style="list-style-type: none"> <li>• Revision</li> </ul>
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	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• Revision</li> </ul>
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<b>Year 12</b>	<p><b>Exam Board:</b> Pearson Edexcel  <b>Qualification:</b> A Level Mathematics</p>



	<p>Term 1:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Algebra and functions</li> <li>• Coordinate geometry</li> </ul>
	<p>Term 2:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Further algebra</li> <li>• Trigonometry</li> </ul>
	<p>Term 3:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Vectors</li> </ul> <p>Mechanics</p> <ul style="list-style-type: none"> <li>• Quantities and units in mechanics</li> <li>• Kinematics 1 (constant acceleration)</li> </ul>
	<p>Term 4:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Differentiation</li> </ul> <p>Mechanics</p> <ul style="list-style-type: none"> <li>• Forces &amp; Newton's laws</li> <li>• Kinematics 2 (variable acceleration)</li> </ul>
	<p>Term 5:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Integration</li> </ul> <p>Statistics</p> <ul style="list-style-type: none"> <li>• Statistical sampling</li> <li>• Data presentation and interpretation</li> <li>• Probability</li> </ul>
	<p>Term 6:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Exponentials and logarithms</li> </ul> <p>Statistics</p> <ul style="list-style-type: none"> <li>• Statistical distributions</li> <li>• Statistical hypothesis testing</li> </ul>
<b>Year 13</b>	<p><b>Exam Board:</b> Pearson Edexcel</p> <p><b>Qualification:</b> A Level Mathematics</p>
	<p>Term 1:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Proof</li> <li>• Algebraic and partial fractions</li> <li>• Functions and modelling</li> </ul> <p>Mechanics</p> <ul style="list-style-type: none"> <li>• Moments</li> <li>• Forces at any angle</li> <li>• Applications of kinematics</li> </ul>



	<p>Term 2:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Series and sequences</li> <li>• The binomial theorem</li> <li>• Trigonometry</li> </ul> <p>Mechanics</p> <ul style="list-style-type: none"> <li>• Applications of forces</li> <li>• Further kinematics</li> </ul>
	<p>Term 3:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Parametric equations</li> <li>• Differentiation</li> <li>• Numerical methods</li> </ul> <p>Statistics</p> <ul style="list-style-type: none"> <li>• Regression and correlation</li> <li>• Probability</li> </ul>
	<p>Term 4:</p> <p>Pure</p> <ul style="list-style-type: none"> <li>• Integration</li> </ul> <p>Statistics</p> <ul style="list-style-type: none"> <li>• The Normal distribution</li> <li>• Vectors</li> </ul>
	<p>Term 5:</p> <ul style="list-style-type: none"> <li>• Revision</li> </ul>
	<p>Term 6:</p> <ul style="list-style-type: none"> <li>• Revision</li> </ul>
Extra-Curricular Activities	<ul style="list-style-type: none"> <li>• UKMT Maths Challenges (National events)</li> <li>• Local competitions organised by the Advanced Maths Support Programmes</li> <li>• Enrichment trips with a variety of Maths related themes.</li> </ul>

