

# Year 11 Learning map



<b>Autumn</b>	Algebra	Fractions percentages and decimals	Shape	Number	Graphs	Ratio and proportion	
<b>Spring</b>	Shape	Data	Algebra	Pythagoras and Trigonometry	Probability	Number	Transformations
<b>Summer</b>	Constructions	Algebra		Vectors	Similarity	Exams	Exams
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G R A D E	Algebra 1	Fractions, Decimals and Percentages	Shape 1	Number 1
4	<ul style="list-style-type: none"> <li>Simplifying expressions</li> <li>Substitution</li> <li>Solving linear equations</li> </ul>	<ul style="list-style-type: none"> <li>FDP equivalence</li> <li>Calculating percentages</li> </ul>	<ul style="list-style-type: none"> <li>Basic angle facts</li> <li>Properties of shapes</li> <li>Interior and exterior angles</li> </ul>	<ul style="list-style-type: none"> <li>Four rules with integers and fractions</li> <li>Rounding and estimation</li> <li>Directed number arithmetic</li> </ul>
5 6	<ul style="list-style-type: none"> <li>Linear inequalities and number lines</li> <li>Solve quadratics by factorisation</li> </ul>	<ul style="list-style-type: none"> <li>Reverse percentages</li> </ul>	<ul style="list-style-type: none"> <li>Bearings</li> </ul>	<ul style="list-style-type: none"> <li>Roots and indices</li> <li>Limits of accuracy</li> </ul>
7 8 9	<ul style="list-style-type: none"> <li>Completing the square</li> <li>Quadratic graphs</li> </ul>	<ul style="list-style-type: none"> <li>Recurring decimals</li> </ul>	<ul style="list-style-type: none"> <li>Circle theorems</li> </ul>	<ul style="list-style-type: none"> <li>Fractional indices</li> <li>Upper and lower bounds</li> </ul>



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<b>G R A D E</b>	<b>Graphs</b>	<b>Ratio and Proportion</b>	<b>Shape 2</b>
<b>4</b>	<ul style="list-style-type: none"><li>• Plot <math>y = mx + c</math></li><li>• Interpret real life graphs</li><li>• Plot quadratics</li></ul>	<ul style="list-style-type: none"><li>• Simplify ratios</li><li>• Share in a ratio</li><li>• Direct proportion</li></ul>	<ul style="list-style-type: none"><li>• Perimeter and area of 2D shapes</li><li>• Volume and surface area of prisms</li></ul>
<b>5 6</b>	<ul style="list-style-type: none"><li>• Parallel lines</li><li>• Find the equation of a line</li><li>• Cubic and reciprocal graphs</li></ul>	<ul style="list-style-type: none"><li>• Use fractions in ratios</li><li>• Density and pressure</li><li>• Inverse proportion</li></ul>	<ul style="list-style-type: none"><li>• Arc length and the area of a sector</li><li>• Volume of cones etc.</li><li>• Plans and elevations</li></ul>
<b>7 8 9</b>	<ul style="list-style-type: none"><li>• Perpendicular lines</li></ul>	<ul style="list-style-type: none"><li>• Equations with proportion</li><li>• Gradients of curves</li></ul>	



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GRADE	Data	Algebra	Pythagoras and Trigonometry	Probability
4	<ul style="list-style-type: none"> <li>Finding averages</li> <li>Charts and graphs</li> <li>Recognise correlation</li> </ul>	<ul style="list-style-type: none"> <li>Laws of indices</li> <li>Linear sequences</li> <li>Changing the subject of a formula</li> </ul>	<ul style="list-style-type: none"> <li>Find sides using Pythagoras</li> <li>Find sides and angles using trig ratios</li> </ul>	<ul style="list-style-type: none"> <li>Single event probability</li> <li>Listing outcomes</li> </ul>
5 6	<ul style="list-style-type: none"> <li>Cumulative frequency graphs</li> <li>Box plots</li> <li>Lines of best fit</li> </ul>	<ul style="list-style-type: none"> <li>Quadratic sequences</li> <li>Factorise quadratics</li> </ul>	<ul style="list-style-type: none"> <li>Use trig in 3D</li> </ul>	<ul style="list-style-type: none"> <li>Tree diagrams – independent events</li> </ul>
7 8 9	<ul style="list-style-type: none"> <li>Histograms</li> </ul>	<ul style="list-style-type: none"> <li>Geometric sequences</li> <li>Complex changing the subject of a formula</li> <li>Proof functions</li> </ul>	<ul style="list-style-type: none"> <li>Use sine and cosine rules</li> <li>Find the area of triangles using <math>A = \frac{1}{2}ab \sin C</math></li> </ul>	<ul style="list-style-type: none"> <li>Dependent events</li> <li>Conditional probability</li> </ul>



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<b>G R A D E</b>	<b>Number 2</b>	<b>Transformations</b>	<b>Constructions</b>
<b>4</b>	<ul style="list-style-type: none"><li>• Calculate with percentages</li><li>• Convert to/from standard form</li><li>• Product of prime factors</li></ul>	<ul style="list-style-type: none"><li>• Perform reflections, rotations, translations and positive enlargements</li></ul>	<ul style="list-style-type: none"><li>• Construct triangles</li></ul>
<b>5 6</b>	<ul style="list-style-type: none"><li>• Compound interest</li><li>• Growth and decay</li><li>• Calculate with standard form</li></ul>	<ul style="list-style-type: none"><li>• Negative and fractional enlargements</li><li>• Identify and describe transformations</li></ul>	<ul style="list-style-type: none"><li>• Construct bisectors</li></ul>
<b>7 8 9</b>	<ul style="list-style-type: none"><li>• Surds</li></ul>	<ul style="list-style-type: none"><li>• Transform graphs (including trig graphs)</li></ul>	<ul style="list-style-type: none"><li>• Loci</li></ul>



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<b>G R A D E</b>	<b>Algebra 3</b>	<b>Vectors</b>	<b>Similarity</b>
<b>4</b>	<ul style="list-style-type: none"><li>• Simultaneous linear equations</li><li>• Read solutions from graphs</li></ul>	<ul style="list-style-type: none"><li>• Add and subtract vectors</li></ul>	<ul style="list-style-type: none"><li>• Find missing sides in similar shapes</li><li>• Understand congruency</li></ul>
<b>5 6</b>	<ul style="list-style-type: none"><li>• Simultaneous equations, one linear, one quadratic</li></ul>	<ul style="list-style-type: none"><li>• Multiply vectors by scalars</li></ul>	<ul style="list-style-type: none"><li>• Solve complex similar triangles problems</li><li>• Recognise congruent triangles</li></ul>
<b>7 8 9</b>	<ul style="list-style-type: none"><li>• Quadratic inequalities</li><li>• Iteration</li></ul>	<ul style="list-style-type: none"><li>• Proof with vectors</li></ul>	<ul style="list-style-type: none"><li>• Solve problems with similar areas and volumes</li><li>• Prove triangles are congruent</li></ul>