

GCSE Maths Year 11 (Foundation) Curriculum Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Graphs						Algebra					
	Gradients & lines		Non-linear graphs		Using graphs		Expanding & factorising		Changing the subject		Functions	
Spring	Reasoning						Revision and Communication					
	Multiplicative		Geometric		Algebraic		Transforming & constructing		Listing & describing		Show that...	
Summer	Revision						Examinations					

	Autumn		Spring		Summer	
	Learning Cycle 1	Learning Cycle 2	Learning Cycle 3	Learning Cycle 4	Learning Cycle 5	Learning Cycle 6
Topic	Graphs	Algebra	Reasoning	Revision & communication	Revision	Revision
Critical Prior Knowledge	<p>Year 10 learning cycle 1 – consolidation of straight-line graphs</p> <p>Year 9 learning cycle 6 – non-linear graphs</p> <p>Year 10 learning cycle 4 – growth & decay problems,</p>	<p>(Revisit directed number arithmetic)</p> <p>Year 10 learning cycle 1 & 2 -solve simultaneous equations</p> <p>Year 9 learning cycle 1 – change the subject of a formula</p>	<p>Year 9 learning cycle 5 – compound measures,</p> <p>Year 9 learning cycle 6 – conversion graphs, direct & inverse proportion,</p> <p>Year 10 learning cycle 5 – types of sequences, n^{th} term,</p>	<p>Year 11 learning cycle 1 – different types of graphs</p> <p>Year 10 learning cycle 1 - Pythagoras' theorem & trigonometry</p>		
Overall Intent (Big ideas & key concepts)	<p>Gradients & lines</p> <p><i>Non-linear graphs</i></p> <p>Using graphs</p>	<p>Expanding & factorising</p> <p><i>Changing the subject</i></p> <p>Functions</p>	<p>Multiplicative</p> <p><i>Geometric</i></p> <p>Algebraic</p>	<p>Transforming & constructing</p> <p><i>Listing & describing</i></p> <p>Show that....</p>		
Essential Knowledge milestones	<p>Equations of lines parallel to the axis (R)</p> <p>Plot straight line graphs (R)]</p>	<p>Expand & factorise with a single bracket (R)</p>	<p>Use scale factors (R)</p> <p>Understand direct proportion</p>	<p>Perform & describe line symmetry & reflection (R)</p>		

	Autumn		Spring		Summer	
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(What students must master)	<p>Interpret $y = mx + c$ (R)</p> <p>Find the equation of a straight line from a graph (1) (R)</p> <p>Find the equation of a straight line from a graph (2)</p> <p>Equation of a straight-line graph given one point & a gradient</p> <p>Equation of a straight graph given two points</p> <p>Determine whether a point is on a line</p> <p>Solve linear simultaneous equations graphically (R)</p>	<p>Expand binomials (R)</p> <p>Solve equations equal to 0</p> <p><i>Solve linear equations (R)</i></p> <p><i>Solve inequalities (R)</i></p> <p><i>Form & solve equations & inequalities in the context of shape</i></p> <p><i>Change the subject of a simple formula (R)</i></p> <p><i>Change the subject of a known formula</i></p> <p><i>Change the subject of complex formula</i></p>	<p>Calculate with pressure & density</p> <p>Understand inverse proportion</p> <p>Construct inverse proportion equations</p> <p>Ratio problems (R)</p> <p><i>Angles at points (R)</i></p> <p><i>Angles in parallel lines & shapes (R)</i></p> <p><i>Exterior & interior angles of polygons</i></p> <p><i>Proving geometric facts</i></p> <p><i>Solve problems involving vectors</i></p> <p><i>Pythagoras' theorem &</i></p>	<p>Perform & describe rotation/rotational symmetry (R)</p> <p>Perform & describe translations of shapes (R)</p> <p>Perform & describe enlargements of shapes (R)</p> <p>Identity transformations of shapes (R)</p> <p>Perform & describe a series of transformations of shapes</p> <p>Perform standard constructions using ruler & protractor or ruler & compasses (R)</p> <p>Solve loci problems</p>		

	Autumn		Spring		Summer	
	Learning Cycle 1	Learning Cycle 2	Learning Cycle 3	Learning Cycle 4	Learning Cycle 5	Learning Cycle 6
Topic	Graphs	Algebra	Reasoning	Revision & communication	Revision	Revision
	Plot & read from quadratic graphs Plot & read cubic graphs Plot & reciprocal graphs Recognise graph shapes Identify & interpret roots & intercepts of quadratics Reflect shapes in given lines (R) Construct & interpret conversion graphs (R) Construct & interpret other real-life straight line graphs (R)	Use function machines (R) Substitute into expressions & formulae (R) Use function notation Work with composite functions Work with inverse functions Graphs of quadratic functions Understand & use trigonometric functions (R)	<i>trigonometrical ratios (R)</i> Simplify complex expressions Find the rule for the nth term of a linear sequence (R) Use rules for sequences Formal algebraic proof	Work with organised lists Sample spaces & probability (R) Complete & use Venn diagrams (R) Construct & interpret plans & elevations (R) Use data to compare distributions (R) Interpreting scatter diagrams (R) "Show that" with number "Show that" with algebra		

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Topic	Graphs	Algebra	Reasoning	Revision & communication	Revision	Revision
	<p>Interpret distance/time graphs</p> <p>Construct distance/time graphs</p> <p>Construct & interpret speed/time graphs</p> <p>Construct & interpret piece-wise graphs</p> <p>Recognise & interpret graphs that illustrate direct & inverse proportion</p> <p>Find approximate solutions to equations using graphs</p>			<p>“Show that” with shape</p> <p>“Show that” with angles</p> <p>“Show that” with data</p> <p>“Show that” with congruent triangles</p>		
Cultural Capital	Year 11 Enriching mathematics 1	Year 11 Enriching mathematics 2	Practical Maths for real world	Practical Maths for real world		
Mode of Retrieval	PiXL Wave	Gap Filling assessment from Wave	PiXL Wave	Gap Filling assessment from Wave	Past Paper questions targeted revision	Past Paper questions targeted revision

	Autumn		Spring		Summer	
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ECC Student Characteristics	<p>Always endeavour to show resilience.</p> <p>Be aspirational.</p> <p>Be knowledgeable & able to deeply understand & recall information easily & be skilled in applying this knowledge in a range of circumstances.</p> <p>Have confidence & communicate effectively</p> <p>Know how to behave well & respect other members of our community when sharing ideas remembering to be mutually tolerant & empathetic</p>					