

Year 9 Maths	Emerging	Developing	Secure	Mastery
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Term 1				
Properties of number	Moving towards mastering the core content of the curriculum.	<p>Factors multiples and primes.</p> <p>Write a number as a product of primes.</p> <p>Highest common factor and lowest common multiple.</p> <p>VENN diagrams.</p>	<p>Use a Venn diagram to calculate HCF and LCM.</p> <p>Integers real numbers and rational numbers.</p>	<p>Use prime factors.</p> <p>Introduction to surds.</p>
Percentages	Moving towards mastering the core content of the curriculum.	<p>Percentage increase and decrease.</p> <p>Express a change as a present.</p> <p>Solve problems with percentages (with and without a calculator)</p> <p>Simple interest.</p>	<p>Find the original value after a percentage change.</p> <p>Repeated percentage change.</p> <p>Understand interest.</p>	Compound interest.

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Area and volume	Moving towards mastering the core content of the curriculum.	<p>Nets.</p> <p>Area of a 2-D shape.</p> <p>Area and circumference of a circle.</p> <p>Surface area of cubes and cuboids.</p> <p>Volume of a prism.</p>	Volume of a cylinder.	<p>Surface area of a triangular prism.</p> <p>Surface area of a cylinder.</p> <p>Volume of cones, pyramids and spheres.</p> <p>Convert metric unit of area and volume.</p>
Fractions	Moving towards mastering the core content of the curriculum.	<p>Add and subtract fractions.</p> <p>Multiply and divide fraction.</p> <p>Fractions of an amount.</p>		
Equations, inequalities and formulae	Moving towards mastering the core content of the curriculum.		<p>Solve equations and inequalities with unknowns on both sides.</p> <p>Solve problems with equations and inequalities.</p> <p>Change the subject of the formula (two step)</p>	<p>Inequalities with negative numbers.</p> <p>Change the subject of a complex formula.</p>

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Rates	Moving towards mastering the core content of the curriculum.	Speed distance in time. Distance time graphs.	Flow problems and their graphs. Rate of change and their units.	Convert compound units.
Maths and money	Moving towards mastering the core content of the curriculum.	Understand a bank account. Spending. Ways to pay and ways to save. Jobs and pay. Budgeting.	Investing. Borrowing money. Running a house for a business. Borrowing (loans). Spending overseas. Insurance.	
Standard form	Moving towards mastering the core content of the curriculum.	Numbers in standard form. Compare and order numbers in standard form.	Multiply and divide numbers in standard. Add and subtract numbers in standard form.	

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Term 2				
Straight line graphs	Moving towards mastering the core content of the curriculum.	<p>Lines parallel to the axis $y=x$ and $y=-x$.</p> <p>Explore ingredients.</p> <p>Explore intercept $Y=mx+c$.</p>	<p>Find the equation of a line from a graph.</p> <p>Interpret gradient and intercept of real-life graphs.</p>	<p>Rearrange equations in the form $y=mx+c$.</p> <p>Graph inequalities.</p>
Ratio and proportion	Moving towards mastering the core content of the curriculum.	<p>Direct proportion.</p> <p>Direct proportion and conversion graphs.</p> <p>Inverse proportion.</p> <p>Ratio problems (whole part given)</p>		<p>Inverse proportion graphs.</p> <p>Solve problems with ratio</p>
Constructions and congruence	Moving towards mastering the core content of the curriculum.	<p>Draw and measure an angle.</p> <p>Construct triangles using ASA, SAS, and SSS.</p> <p>Construction angle bisector.</p>	<p>Construct an interpret scale.</p> <p>Construct perpendicular from or to appoint.</p> <p>Construct more complex polygons.</p> <p>Identify congruent figure figures.</p> <p>Congruent triangles.</p>	

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Similarity	Moving towards mastering the core content of the curriculum.	<p>Recognise enlargement and similarity.</p> <p>Workout unknown length and angles in similar shapes.</p>		<p>Solve problems with similar triangles.</p> <p>Ratio in right angle triangles.</p>
Algebraic manipulation	Moving towards mastering the core content of the curriculum.	<p>Expand single brackets and simplify.</p> <p>Factorise into a single bracket.</p> <p>Expand double bracket</p>	<p>Expand more complex double bracket.</p> <p>Use identities.</p>	<p>Factorise quadratic express expressions.</p> <p>Solve quadratic express expression.</p> <p>Expand triple brackets.</p>

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Term 3				
Pythagoras' theorem	Moving towards mastering the core content of the curriculum.	Identify the hypotenuse. Pythagoras theorem.	Solve equations with square squares and square roots. Determine whether a triangle is right angle. Use Pythagoras theorem and coordinate axis.	Proof of Python Theo. Pythagoras theorem in 3-D.
Non-linear graphs	Moving towards mastering the core content of the curriculum.	Substitute into quadratic expressions. Draw quadratic graphs.	Draw more complex quadratic graph. Interpret quadratic graphs. Interpret reciprocal and exponential graph.	Draw cubic grass. Interpret cubic grass. Interpret roots intersect and turning points.
Probability	Moving towards mastering the core content of the curriculum.	Identify and represent set. Intersection of a set. Union of a set. Probability of a single. Expected outcomes. Independent events.	Use diagrams to work out probability. Relative frequency. Probability from then diagrams.	Compliment of a set.

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Transformations	Moving towards mastering the core content of the curriculum.	<p>Enlargement (positive scale factor)</p> <p>Rotation about a point.</p> <p>Translation.</p> <p>Reflection.</p>	<p>Enlargement from a point (positive scale factor)</p> <p>Enlargement bracket (fractional scale factor)</p> <p>Describe an enlarge</p> <p>Describe a translation</p>	<p>Enlargement (negative scale factor)</p> <p>Find the result of a series of transformations.</p>
Simultaneous equations	Moving towards mastering the core content of the curriculum.	<p>Use one value to find another.</p> <p>Introduction to simultaneous equation.</p> <p>Solve simultaneous equations using graph.</p> <p>Solve simultaneous equations</p>	<p>Manipulating equations.</p> <p>Solving simultaneous equations (just one)</p>	<p>Solve simultaneous equations (adjusting both)</p> <p>Solve simultaneous equations by substitution.</p>
Trigonometry	Moving towards mastering the core content of the curriculum.	<p>Identify hypotenuse opposite and adjacent sides.</p> <p>Use the tangent ratio to find known side lengths.</p> <p>Use sine and cosine ratios to find unknown side length.</p>	<p>Uses cosine and tangent ratios to find unknown angles.</p> <p>Choose the right method</p>	<p>Key angles in right angle triangles.</p> <p>Trigonometry in 3-D shapes.</p>