



Curriculum Map



Subject: Mathematics

Year group: 9

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Content</p> <p><i>Declarative Knowledge – ‘Know What’</i></p>	<p>Developing Geometry (from year 8) Area of trapezia and circles Line symmetry and reflection</p>	<p>Reasoning with algebra Straight line graphs Forming and solving equations</p>	<p>Constructing in 2 and 3 dimensions Three dimensional shapes Constructions and congruency</p>	<p>Reasoning with Number Numbers Using percentages Maths and money</p>	<p>Reasoning with Geometry Deduction Rotation and translation Pythagoras’ Theorem</p>	<p>Reasoning with Proportion Enlargement and similarity Trigonometry (added to meet requirements of NC) Solving ratio and proportion problems Rates</p>
<p>Skills</p> <p><i>Procedural Knowledge – ‘Know How’</i></p>	<ul style="list-style-type: none"> • Area of trapezium • Area of circle and parts of circles • Using significant figures • Area of compound shapes 	<ul style="list-style-type: none"> • Interpret straight line graphs • Find and use the equations of a straight line • Compare to linear sequences and finding the rule for the nth term • Revisit and stand to equations and inequalities with unknowns on both sides • Use all previous contexts; angles, probability, area etc. • Test conjectures in a wide range of contexts 	<ul style="list-style-type: none"> • Understand the language of faces, edges, and vertices • Know the names of common prisms and non-prisms • Identify 2D shapes within 3D shapes • Work out the volume and surface area of a cuboid and cylinder • Work out the volume of any prism • Work out missing lengths given area and/or volume • Construct 3D shapes from nets, and construct the net of a given 3D shape • Construct and use scale drawings • Construct perpendiculars and bisectors • Understand congruency • Exploring congruency via constructions. 	<ul style="list-style-type: none"> • Revisit types of number • Revisit fraction arithmetic • Extend knowledge of HCF and LCM • Revisit standard form • Revisit percentage increase and decrease • Use percentages over 100% • Find percentage change • Use multipliers in a variety of contexts. • Explore financial mathematics 	<ul style="list-style-type: none"> • Revisit angle rules, including special quadrilaterals • Find angles using algebraic methods • Use chains of reasoning to evaluate angles • Identify the order of rational symmetry of a shape • Find the result of rotating a shape • Translate points and shapes by a given vector • Understand variance and invariance in the contexts of transformations • Identify the hypotenuse of a right-angled triangle • Determine whether a triangle is a right angled • Calculate missing sides in right angled triangles. 	<ul style="list-style-type: none"> • Enlarge shapes by a positive scale factor, including from a given point. • Calculate the lengths of missing sides in similar shapes • Understand Trig ratios and use to find missing side lengths and angles • Direct proportion problems and graphs • Conversion graphs • Solving ratio problems given the whole or a part • Simple inverse proportion • Work with speed, distance, time • Solve problems involving density • Work with compound units



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Key Questions	Can you confidently write the use the formulae for the area of a trapezium and the area and circumference of a circle?	Can you explain why $y=mx+c$ is the form for a straight line and identify the equation from a line on a graph?	Can you explain why $\text{base} \times \text{height} \times \text{depth}$ is not the way to calculate the volume of all prisms?	Can you explain why using a multiplier of 1.35 will increase an amount by 35%?	How does using Pythagoras' Theorem help you decide if a triangle is right angled?	Why does the centre of enlargement have an effect on the enlargement of a shape?
Assessment	Baseline assessment Mini unit test	Mini unit test	Mini unit test	Mini unit test	Mini unit test	Mini unit test
Literacy/Numeracy/ SMSC/Character						