

Maths – Year 9 Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6		
	Straight line graphs	Three-dimensional shapes	Using percentages	Rotation and translation	Solving ratio & proportion problems	Algebraic representation	Careers	
White Rose Maths - Year 9	<ul style="list-style-type: none"> Revisit straight line graphs $y=8$. Reduce equations to the form $y = mx + c$ Compare to linear sequences and find the rule for the n^{th} term. 	<ul style="list-style-type: none"> Understand the language of faces, edges and vertices. Know the names of common prisms and non-prisms. Identify 2-D shapes within 3-D shapes. Work out the volume and surface area of cuboids and cylinders. Work out the volume of any prism. Work out missing lengths given area and/or volume. Careers Lesson 1. 	<ul style="list-style-type: none"> Revisit percentage increase and decrease. Use percentages over 100%. Find percentage changes. Use multipliers in a variety of contexts Solve “reverse percentage” problems. 	<ul style="list-style-type: none"> Identify the order of rotational 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 context of transformations. 	<ul style="list-style-type: none"> Direct proportion problems and graphs. Conversion graphs. Solve ratio problems given the whole or a part. Simple inverse proportion Unit pricing problems ('best buys'). 	<ul style="list-style-type: none"> Drawing and reading from quadratics. Interpret other graphs e.g. reciprocal. piece-wise. Represent inequalities. 	<p>Career lesson 1 – after students study the unit of three-dimensional shapes they can see the links between area and volume for being a quantity surveyor.</p> <p>Careers lesson 2 – another careers lesson but also life skill in the travel agent careers lesson. Using currency exchange and best buys to find the best deal will be important to our students and being able to reason about their findings.</p>	
	Forming and solving equations	Construction and congruency	Maths and money	Pythagoras' theorem	Rates	Congruence, similarity and enlargement		
	<ul style="list-style-type: none"> Revisit and extend to equations and inequalities with unknown on both sides using all previous contexts: angles, probability, area etc. 	<ul style="list-style-type: none"> Construct 3-D shapes from nets, and construct the net of a given 3-D shape. Construct and use scale drawings. 	<ul style="list-style-type: none"> Explore financial mathematics including: Bills and bank statements, Interest, Unit pricing (best buy). Careers Lesson 2. 	<ul style="list-style-type: none"> Identify the hypotenuse of a right-angled triangle. Determine whether a triangle is right-angled. Calculate missing sides in right-angled triangles. 	<ul style="list-style-type: none"> Work with speed, distance, time. Solve problems involving density. Work with compound units. Careers Lesson 3. 	<ul style="list-style-type: none"> Understand the difference between congruence and similarity. Enlarge a shape about a given point, understand and use similarity. 	<p>Careers lesson 3 – Using compound measures to look at being an air traffic controller this aspirational career will help students develop an understanding of what can be a difficult concept/topic.</p>	

	<ul style="list-style-type: none"> • Change the subject of a formula. 	<ul style="list-style-type: none"> • Construct perpendicular and bisectors. • Understand congruency. • Exploring congruency via construction. 				<ul style="list-style-type: none"> • Find missing sides in similar shapes including pairs of similar triangles. • Understand and use the conditions for a pair of congruent triangles. 	
	Testing conjecture	Number	Deduction	Enlargement and similarity	Probability	Trigonometry	
	<ul style="list-style-type: none"> • Test conjectures in a wide range of context e.g. Sums and products of odd and even numbers, is a given number in a sequence? Is this shape...? Are these lines parallel? What would happen if...? 	<ul style="list-style-type: none"> • Revisit types of number – extend to include rational and real numbers. • Revisit fraction arithmetic. • Extend knowledge of HCF and LCM. • Revisit standard form. 	<ul style="list-style-type: none"> • Revisit angle rules, including within special quadrilaterals. • Find angles within algebraic methods. • Use chains of reasoning to evaluate angles. 	<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. 	<ul style="list-style-type: none"> • Relative frequency. • Expected number of outcomes. • Independent events. 	<ul style="list-style-type: none"> • Understand trigonometric ratios. • Work out missing lengths and angles in right-angled triangles. • Know and use exact values of key angles. 	