



CURRICULUM CORE KNOWLEDGE PLAN

SUBJECT: Mathematics

YEAR GROUP: Year 11

DATE: HT3

Term and unit	Core knowledge	Core vocabulary	Revisiting prior knowledge	Links to Walney Ways & Employability skills/Careers
Spring Term 1.1 – Multiplicative Reasoning (2 weeks)	• Use scale factors (R) • Ratio Problems (R) • Understand direct proportion • Calculate with pressure and density • Understand inverse proportion • Construct complex direct proportion equations (H) • Construct complex inverse proportion equations (H) Bold = higher content	Enlargement Scale factor Multiplier Direct proportion Equation Linear Varies directly Density Mass Volume Pressure Force Area Inverse proportion Constant of proportionality Fraction Percentage	Topics indicated by (R)	
Spring Term 1.2 – Geometric Reasoning (2 weeks)	• Angles at a point (R) • Angles in parallel lines (R) • Exterior and interior angles of polygons (R) • Solve problems involving vectors (R)	Angle Vertically opposite Straight line Point	Topics indicated by (R)	



	• Review Pythagoras and using trig ratios (R) • Proving geometric facts • Review of circle theorems (H) • Circle theorem: Angle between radius and chord (H) • Circle theorem: Angle between radius and tangent (H) • Circle theorem: Two tangents from a point (H) • Circle theorem: Alternate segment theory (H) • Bold = Higher content	Parallel Corresponding Alternate Co-interior Regular Interior Exterior Equilateral Isosceles Right angle Trapezium Vector Column Position Vertical Horizontal Circumference Segment Cyclic quadrilateral Bisects Radius Chord Tangent Opposite Adjacent Hypotenuse		
Spring Term 1.3 – Algebraic Reasoning	• Find the rule for the nth term of a linear sequence (R) • Solve linear simultaneous equations (R) • Simplify complex expressions	Simplify Expression Term		



(2 weeks)	• Use rules for sequences • Find the rule for the nth term of a quadratic sequence (R) (H) • Solve simultaneous equations with one quadratic (R) (H) • Formal algebraic proof (H) • Inequalities in two variables (H) Bold = higher content	Coefficient Sequence Linear Non-linear Quadratic Fibonacci Geometric Inequality Eliminate Substitute Proof Counter example Region Satisfy Integer Test		
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