



Maths- Y10H

MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM 3 JAN-FEB	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	
TOPIC (S)	Pythagoras' Theorem and Basic Trigonometry	Pythagoras' Theorem and Basic Trigonometry	Algebra: Introduction to Quadratics and Rearranging Formula	Algebra: Introduction to Quadratics and Rearranging Formula	Volume	Volume	
Knowledge & Skills development	<p><u>Pythagoras' Theorem and Basic Trigonometry</u></p> <ul style="list-style-type: none"> know the formulae for: Pythagoras' theorem, $a^2 + b^2 = c^2$ the trigonometric ratios, $\sin\theta = \text{opposite/hypotenuse}$, $\cos\theta = \text{adjacent/hypotenuse}$ and $\tan\theta = \text{opposite/adjacent}$ apply them to find angles and lengths in right-angled triangles in two dimensional figures know the exact values of $\sin\theta$ and $\cos\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° know the exact value of $\tan\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides, including Pythagoras' theorem, and use known results to obtain simple proofs compare lengths using ratio notation and make links to including trigonometric ratios <p><u>Algebra: Introduction to Quadratics and Rearranging Formula</u></p> <ul style="list-style-type: none"> simplify and manipulate algebraic expressions (including those involving surds) by: <ul style="list-style-type: none"> expanding products of two binomials factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares simplifying expressions involving sums, products and powers, including the laws of indices understand and use standard mathematical formulae rearrange formulae to change the subject <p><u>Volume</u></p> <ul style="list-style-type: none"> compare lengths, areas and volumes using ratio notation make links to similarity and scale factors know and apply formulae to calculate volume of: <ul style="list-style-type: none"> cuboids other right prisms (including cylinders) Calculate the volume of: <ul style="list-style-type: none"> spheres pyramids cones composite solids calculate exactly with multiples of π 						

Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	Use of Trigonometry in real life situations Application of area and perimeter in problem solving (material required)					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	Willingness to participate in, and respond to mathematical opportunities. Use of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socio-economic backgrounds.					
Reading opportunities	What's the point of maths? Murderous Maths, Marvellous Maths, Launch a rocket into space, Humble Pi.					
Key Vocabulary	Pythagoras, Theorem, Hypotenuse, Opposite, Adjacent, Square, Trigonometry, Sine, Cosine, Tangent, Right-angled, Expression, Equation, Formula, Term, Identity, Quadratic, Linear, Binomial, Expand, Factorise, Simplify, Index, Laws, Rearrange, Subject, Scale factor, Ratio, Volume, Units, Pi.					
Digital Literacy	Geogebra					
Careers	Engineering, Business, Architecture, Building, Gaming.					