

Maths- Y12

MAGHULL HIGH SCHOOL – CURRICULUM MAP



HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 7
TOPIC (S):-Pure :-Statistics :-Mechanics	Algebraic manipulation, quadratic equations and simultaneous equations. Statistical Sampling Vectors	Algebraic manipulation, quadratic equations and simultaneous equations Statistical Sampling Vectors	Algebraic manipulation, quadratic equations and simultaneous equations Statistical Sampling Vectors	Graphs, Linear and quadratic inequalities. Data presentation and interpretation Vectors	Graphs, Linear and quadratic inequalities. Data presentation and interpretation Vectors	Binomial Expansion Data presentation and interpretation Vectors	Revision and Test for all 3 modules.
Knowledge & Skills development	Pure Statistics Mechanics	Understand and use the laws of indices for all rational exponents. Use and manipulate surds, including rationalising the denominator. Work with quadratic functions and their graphs; the discriminant of a quadratic function, including the conditions for real and repeated roots; completing the square; solution of quadratic equations including solving quadratic equations in a function of the unknown. Solve simultaneous equations in two variables by elimination and by substitution, including one linear and one quadratic equation. Manipulate polynomials algebraically, including expanding brackets and collecting like terms, factorisation and simple algebraic division; use of the factor theorem. Understand and use the terms ‘population’ and ‘sample’. Use samples to make informal inferences about the population. Understand and use sampling techniques, including simple random sampling and opportunity sampling Select or review sampling techniques in the context of solving a statistical problem, including understanding that different samples can lead to different conclusions about the population. Use vectors in two dimensions. Calculate the magnitude and direction of a vector and convert between component form and magnitude/direction form. Add vectors diagrammatically and perform the algebraic operations of vector addition and multiplication by scalars, and understand their geometrical interpretations. Understand and use position vectors; calculate the distance between two points represented by position vectors. Use vectors to solve problems in pure mathematics and in context, including forces.					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice		
Cultural Capital	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Tolerance and respect for peers and mathematicians • Democracy: allowing all to speak and voice views 					

SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Tolerance and respect for peers and mathematicians • Democracy: allowing all to speak and voice views
Reading opportunities		<ul style="list-style-type: none"> • Fermat's Last Theorem • History of computer programming • History of Florence Nightingale
Key Vocabulary		Indices, Surds, Manipulate, Rationalise, Factorise, discriminant, Population, sample, Magnitude, Forces
Digital Literacy		Demos for graphing. Geogebra.
Careers		Engineer, Statistician, Business- manager, Market research. Computer Programmer, Video game development.