Maths- Y12

MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM 5 Apr-May	Week 1 W/C 18th April (1)	Week 2 W/C 25th April (2)	Week 3 W/C 2nd May (2)	Week 4 W/C 9th May (2)	Week 5 W/C 16th May (1)	Week 6 W/C 23rd May (2)	
Units							
:-Pure	Teaching Preparation & Review of Units	Teaching Preparation & Assessment of units	Teaching Preparation & Review of Units	Teaching Preparation & Assessment of Units	Teaching Preparation & Review of Units	Assessments and the start of the School Moderation process	
:-Statistics	Teaching Preparation & Review of Units	Teaching Preparation & Assessment of units	Teaching Preparation & Review of Units	Teaching Preparation & Assessment of Units	Teaching Preparation & Review of Units	Assessments and the start of the School Moderation process	
:-Mechanics	Vectors	Vectors	Vectors	Vectors	Kinematics in one dimension	Kinematics in one dimension	

Topics to be Reviewed.

Pure

- Algebraic manipulation
- Polynomials and the Binomial Theorem
- Differentiation
- Integration Trigonometry
- Exponentials and Logarithms
- Argument and Proof

Statistics

- Sampling
- Central tendency and spread
- Single-variable data
- Bivariate data
- Probability
- Binomial distribution
- Formulating a test
- The critical region

Mechanics

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. **Kinematics in one dimension:** Understand and use fundamental quantities and units in the S.I. system: length, time, mass. Understand and use derived quantities and units: velocity, acceleration, force, weight. Understand, interpret and extract information from diagrams and construct mathematical diagrams to solve problems, including in mechanics. Translate a situation in context into a mathematical model, making simplifying assumptions. Understand that a mathematical model can be refined by considering its outputs and simplifying assumptions. Understand and use modelling assumptions. Understand and use the language of kinematics: position; displacement; distance travelled; velocity; speed; acceleration. Understand, use and interpret graphs in kinematics for motion in a straight line: displacement against time and interpretation of

		gradient; velocity against time and interpretation of gradient and area under the graph. Evaluate, including by making reasoned estimates, the limitations of solutions. Use a mathematical model with suitable inputs to engage with and explore situations (for a given model or a model constructed or selected by the student). Interpret the outputs of a mathematical model in the context of the original situation (for a given model or a model constructed or selected by the student). Understand that a mathematical model can be refined by considering its outputs and simplifying assumptions. Understand, use and derive the formulae for constant acceleration for motion in a straight line. Use a mathematical model with suitable inputs to engage with and explore situations (for a given model or a model constructed or selected by the student). Interpret the outputs of a mathematical model in the context of the original situation (for a given model or a model constructed or selected by the student). Use calculus in kinematics for motion in a straight line: $v = dr/dt$, $a = dv/dt$, $r = \int v\,dt$, $a = \int v\,dt$.