



Subject		Year	Term
Maths		12	1
Topic			
Proof, Surds & Indices, Quadratics & Cubics, Kinematics, Inequalities, Simultaneous Equations, Co-ordinate Geometry, Newton's Laws of Motion			
Content (Intent)			
Prior Learning (Topic)		GCSE	
<ul style="list-style-type: none"> Constructing basic algebraic proofs. Laws of indices, simplifying surds, rationalising the denominator, connection between surds & indices. Solving quadratic equations, factorising quadratic expressions, completing the square, plotting quadratic graphs, plotting cubic graphs. Distance-time graphs & velocity-time graphs. Solving inequalities Gradients of parallel and perpendicular lines Transformations of graphs 			
Future Learning (Topic)		Binomial Expansion, Trigonometry, Dynamics, Logarithms & Exponential Functions, Differentiation, Moments	
What Knowledge and Skills will be taught (Implementation)		How will your understanding be assessed & recorded (Impact)	
<ul style="list-style-type: none"> Constructing proof using alternative methods. Consolidation and extension of algebraic manipulation skills and of using the laws of surds & indices. Fully understanding & using the discriminant. Factorising both quadratic and cubic expressions using the Factor Theorem and algebraic long division Kinematics – understanding constant acceleration formulae in 1-dimensional motion, and the links with velocity-time graphs 		Baseline test in Pure Maths (start of year) Early Hurdle test in Pure Maths Formal Homework (Pure Maths & Mechanics) Ongoing self-assessment	
<ul style="list-style-type: none"> Solving linear & quadratic inequalities, expressing the solution using set notation, graphing inequalities in 2 variables. Solving simultaneous equations including one non-linear. Working with circles, tangents, normals, circumcircles, parallel and perpendicular lines. Sketching and transforming graphs. Drawing force diagrams., working with vector quantities. Using Newton's Laws of Motion to set up and solve equations, including for connected particles. 		Early Hurdle Test in Mechanics Formal Homework (Pure Maths & Mechanics) Ongoing self-assessment	
How can parents help at home?			
Check assessment record in formal assessed homework books. Encourage use of MyMaths			
Helpful further reading/discussion (including Reading and Vocabulary Lists)			
Class textbook Chapters 1 & 2, chapter 15 (not section 3) Chapters 3 & 4, chapter 16 Additional textbooks: ISBN 978-1-292-18339-8 (Pure) chapters 1-7 ISBN 978-1-292-23253-9 (Mechanics) chapters 9 & 10 Website: https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html		Vocabulary Lists Plane Displacement Inextensible Magnitude Resultant Kinematics	