Bishop Heber High School

Subject	Year	Term
Maths	12	1

Topic

Proof, Surds & Indices, Quadratics & Cubics, Kinematics, Inequalities, Simultaneous Equations, Coordinate Geometry, Binomial Expansion, Newton's Laws of Motion, Sampling, Data Presentation & Interpretation.

Content (Intent)

Prior Learning (Topic) GCSE

Algebraic manipulation including solving linear & quadratic equations, inequalities, factorising quadratic expressions, completing the square, plotting graphs
Understanding surds & indices
The basic equation of a straight line, gradients of parallel and perpendicular lines

Future Learning (Topic)

What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)
• 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. • The Factor Theorem and algebraic long division. • Solving linear & quadratic inequalities & simultaneous equations (including non-linear). • Understanding constant acceleration formulae in 1-D motion, and the links with velocity-time graphs. • Measures of central tendency, spread, variance & standard deviation.	Baseline test in Pure Maths (start of year) Half – termly in-class tests Regular exam starter questions in class
• Working with circles, tangents, normals, circumcircles, parallel and perpendicular lines. • Sketching and transforming graphs. • Performing Binomial Expansion & using it to make approximations • Drawing force diagrams., working with vector quantities. • Using Newton's Laws of Motion to set up and solve equations, including for connected particles. • Coding. Representing data using graphs & diagrams	Summative Assessment 1 Half – termly class tests Regular exam starter questions in class

How can parents help at home?

Encourage/monitor use of Uplearn

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading

Class textbook Chapters 1, 2, 3, 4, 5 (Pure)
Chapters 15 & 16 (Mechanics)
Chapter 11 (Statistics)

Additional textbooks:
ISBN 978-1-292-18339-8 (Pure Y1) chapters 1 - 8
ISBN 978-1-292-23253-9 (Stats & Mech Y1) ch1, 2, 8 , 10

Vocabulary Lists

Discriminant	Factorial
Coefficient	Inextensible
Distinct	Resultant
Reciprocal	Intersection
Equate	Kinematics
Equilibrium	Census
Roots	Correlation
Normal	Regression