

KS3 Curriculum Overview: Maths

Rationale: In year 9 we aim to build on the knowledge and understanding gained in year 7 and 8. Students will look at key concepts and how to apply them to problem solving style questions. Students will look at topics in more depth to help develop their mathematical reasoning.

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points	Reading
Yr9 HIGHER Autumn 1	Number Algebra	Number unit test Algebra unit test	Set every week by individual teachers	Full SOW in shared area	Number problems and reasoning Place value and estimating HCF and LCM Calculating with powers Standard form Surds Algebraic indices Expanding and factorising Equations Formulae Linear and non linear sequences	<p>Books: The Music of the Primes by Marcus du Sautoy</p> <p>How not to be wrong the hidden maths of everyday life by Jordan Ellenberg Words to understand Variable, expression, term, equation, coefficient</p> <p>Reading strategy: Go through key words and annotate worded problems.</p> <p>Key words: Indices, significant, coefficient, formulae, factorising.</p>
Yr9 HIGHER Autumn 2	Interpreting and representing data Fractions, ratio and percentages	Interpreting and representing data unit test Fractions, ratio and percentages unit test	Set every week by individual teachers	Full SOW in shared area	Statistical diagrams Time series Scatter graphs Averages and range Fractions, ratio and proportion Percentages Converting FDP	<p>Books: What's the point of maths? Fractions in disguise by Edward Einhorn</p> <p>Reading strategy: Go through key words and annotate worded problems.</p> <p>Key words: Percentage, denominator, numerator, Meanings of words: Mean, Mode, Median, Range Etymology of percent.</p>

Yr9 HIGHER Spring 1	Angles and trigonometry	Angles and trigonometry unit test	Set every week by individual teachers	Full SOW in shared area	Angle properties of triangles and quadrilaterals Interior and exterior angles of polygons Pythagoras' theorem trigonometry	Books: The golden ratio by Gary Meisner Reading strategy: Go through key words and annotate worded problems. Key words: Trigonometry, formulae, sine, cosine, tangent Etymology of theta Etymology of sin cos tan
Yr9 HIGHER Spring 2	Graphs Area and Volume	Graphs unit test Area and volume unit test	Set every week by individual teachers	Full SOW in shared area	Linear graphs Graphing rates of change Real life graphs Line segments Quadratic graphs Cubic and reciprocal graphs Area and volume Volume and surface area of prisms Area and perimeter of sectors and circles Cylinders, cones, spheres and pyramids	Books: Dr Maths explains Geometry Reading strategy: Go through key words and annotate worded problems. Key words: Area, Volume, Prism, Perimeter
Yr9 HIGHER Summer 1	Transformations and constructions	Transformations and constructions unit test	Set every week by individual teachers	Full SOW in shared area	Plans and elevations Reflections and rotations Enlargements Translations Bearings and scale drawings Constructions Loci	Books: Dr. Math Explains Algebra by The Math Forum Reading strategy: Go through key words and annotate worded problems. Key words: Gradient, transformation, translation, reflection, rotation, enlargement. Etymology of enlargement.
Yr9 HIGHER Summer 2	Equations and inequalities Probability	Equations and inequalities unit test Probability unit test	Set every week by individual teachers	Full SOW in shared area	Solving quadratic equations Solving simultaneous equations Solving linear and quadratic simultaneous equations Solving linear inequalities Mutually exclusive events Experimental probability Tree diagrams Conditional probability	Books: Dr. Math Explains Algebra by The Math Forum The magic of maths by Kjaratan Poskitt Reading strategy:

					Venn diagrams	Go through key words and annotate worded problems. Key words: Conditional, Quadratic, Simultaneous
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