

# YEAR 11 CURRICULUM MEDIUM TERM PLAN - MATHS (H) 3Yr YR 11 Sept 22



TOPIC	KEY LEARNING	ASSESSMENT
HT 1: More Trigonometry  HT 1: Further Statistics	Accuracy and bounds in trigonometry. Graphs of the sine, cosine and tangent function. Calculating areas of triangles using $\frac{1}{2} ab \sin C$ . Calculating and using the sine rule. Calculating segments of circles. Using the cosine rule to find angles or sides. 3d Pythagoras' Theorem. Trigonometry in 3d. Function change & trigonometric graphs.  Random Samples. Using samples to predict results for populations. Capture-recapture. Draw cumulative frequency tables and graphs. Interpret cumulative frequency tables and graphs using quartiles. Box plots. Drawing histograms. Interpreting histograms. Comparing and describing distributions.	<u>Assessment on:</u> More Trigonometry  Further Statistics
HT 2: Equations and Graphs  HT 2: Circle Theorems	Solving simultaneous equations graphically. Representing and interpreting inequalities graphically. Find roots of equations. Sketch quadratics. Using quadratic graphs and their roots. Solving quadratic inequalities. Cubic equations, roots and sketching. Solve quadratics and cubics using Iteration.  Use understand and prove Circle Theorems ( radii and chords, tangents, angle at centre and circumference, angle in a semi-circle, angles subtended on circumference, cyclic quadrilaterals, alternate segments). Applying circle theorems. Finding equations of tangents to a circle at a given point.	<u>Assessment on:</u> Equations and Graphs  Circle Theorems
HT 3: More Algebra  HT3: Vectors & Geometric Proof	Rearranging formulae when the subject of the formula appears twice. Rearranging formulae with powers and roots. Working with all four functions and algebraic fractions, including complex algebraic fractions. Simplifying algebraic fractions. Proof. Simplifying and expanding expressions involving surds. Rationalising denominators. Solving fractional algebraic equations. Using Function notation. Composite and inverse functions.  Use vectors & vector notation. Vector magnitude. Calculate vectors and represent them graphically. Parallel vectors. Find the resultant of two vectors. Triangle law. Parallelogram law. Expressing points as position vectors. Vector proof, (parallel vectors and collinear points). Solving vector problems where vectors are divided in a given ratio.	<u>Assessment on:</u> More Algebra  Vectors & Geometric Proof
HT4: Vectors & Geometric Proof	Use vectors & vector notation. Vector magnitude. Calculate vectors and represent them graphically. Parallel vectors. Find the resultant of two vectors. Triangle law. Parallelogram law. Expressing points as position vectors. Vector proof, (parallel vectors and collinear points). Solving vector problems where vectors are divided in a given ratio.	<u>Assessment on:</u> Vectors & Geometric Proof
HT5: Proportion & Graphs	Direct proportion including graphs. Constant of proportionality. Direct proportion equations including with squares and cubes. Inverse proportion including graphs. Inverse proportion equations including with squares and cubes Recognise and Sketch exponential functions. Calculate gradient at a tangent to a point. Area under a curve. Translating graphs of functions. Reflecting graphs of functions	<u>Assessment on:</u> Proportion & Graphs