CORE KNOWLEDGE

What I will know and understand by the end of Year 10.

	By the end of this year in Mathematics, we will be able to understand, reason with and solve problems involving...	This links to:	Key Vocabulary:
1	• Congruence, similarity and enlargement • Trigonometry in right angled triangles • Representing solutions of equations and inequalities	• Enlargement from Year 9 HT 5 • Using the sine and cosine graphs in Year 11 and KS5 • Block 7 in year 8, brackets equations and inequality	• Congruent • Similar • Hypotenuse • Inequality
2	• Forming and solving simultaneous equations • Angles in parallel lines and bearings	• Solving quadratic simultaneous equations in year 11 and KS5 • Angle rules from KS3 • Forces in mechanics KS5	• Simultaneous • Bearing
3	• Circles including calculating area and circumference. • Translation with vectors and vector notation	• Circle theorems in year 11 • Carrying out translations in year 9 • Proving two vectors are parallel and on a straight line in Year 11 and KS5	• Circumference • Diameter • Radius • Vector
4	• Ratio and fractions • Percentages, involving growth and decay • Probability, involving independent events	• Ratio and scale in block 1 in year 8 • Fractions, decimals and percentage equivalence in year 7, along with use of multipliers in year 9 • Fraction multiplication from KS3	• Simple interest • Compound interest • Independent
5	• Collecting, representing and interpreting data • Non-calculator methods for calculations with integers, decimals and fractions.	• Statistical analysis, including correlation coefficients in KS5 statistics • Calculating with exact values from Number sense in year 8	• Sampling • Grouped data • Distribution • Evaluate
6	• Types of number and sequences • Indices and roots	• Finding the quadratic nth term in year 11 • Knowledge of standard index form from year 8 • Surd manipulation in year 11 and KS5	• Prime factorisation • Arithmetic • Geometric • Root • Index form

Target Grade:		AP1:		AP2:		AP3:	

CORE KNOWLEDGE

What I will know and understand by the end of Year 11 (F).

	By the end of this year in Mathematics, we will be able to understand, reason with and solve problems involving...	This links to:	Key Vocabulary:
1	• Expanding and factorising, including quadratics • Changing the subject including formula and to solve equations • Function machines.	• Solving equations year 11 and KS5 • Algebraic reasoning Year 11 and KS5 • Block 7 in year 8, brackets equations and inequality • Simultaneous equations year 10	• Expand • Factorise • Inequality
2	• Linear graphs • Non linear graphs • Application and interpretation of graphs	• Solving problems with graphs, tables and algebra in year 9 • Working in the cartesian plane from KS3 • Coordinate geometry in KS5	• Gradient • Y-intercept • Quadratic
3	• Multiplicative reasoning involving direct and inverse proportion • Geometric reasoning, involving knowledge of shape and angles • Algebraic reasoning, including sequences and proof	• Ratio and proportion from year 10 • Trigonometry from year 10 • Proof in KS5	• Density • Pythagoras • Hypotenuse • Nth term
4	• Transformations and constructions • Listing and describing outcomes • 'Show that…'	• Constructions from year 9 • Enlargements from year 10 • Statistics in KS5	• Rotate • Reflect • Translate • Vector • Perpendicular
5	**Examination preparation**		
6			

Target Grade:		AP1:		AP2:		AP3:	

CORE KNOWLEDGE

What I will know and understand by the end of Year 11 (H).

By the end of this year in Mathematics, we will be able to understand, reason with and solve problems involving...		This links to:	Key Vocabulary:
1	• Expanding and factorising, including quadratics • Changing the subject involving formula and to solve equations • Function machines	• Solving equations year 11 and KS5 • Algebraic reasoning Year 11 and KS5 • Block 7 in year 8, brackets equations and inequality • Simultaneous equations year 10	• Quadratic • Difference of two squares • Inequality • Inverse
2	• Linear graphs • Non linear graphs • Application and interpretation of graphs	• Solving problems with graphs, tables and algebra in year 9 • Working in the cartesian plane from KS3 • Coordinate geometry in KS5	• Perpendicular gradient • Reciprocal • Minimum point • Quadratic • Cubic
3	• Multiplicative reasoning involving direct and inverse proportion • Geometric reasoning, involving knowledge of shape and angles • Algebraic reasoning, including sequences and proof	• Ratio and proportion from year 10 • Trigonometry from year 10 • Proof in KS5	• Density • Hypotenuse • Exact • Proof • Nth term
4	• Transformations and constructions • Listing and describing outcomes • 'Show that…'	• Constructions from year 9 • Enlargements from year 10 • Statistics in KS5	• Enlarge • Vector • Perpendicular bisector • Angle bisector
5	**Examination preparation**		
6			

Target Grade:		AP1:		AP2:		AP3:	