



Curriculum Overview



SUBJECT:	MATHS	YEAR:	10
INTENT:	To build on the skills learnt in KS3 and begin to equip students with the numeracy and problem-solving skills they will need to succeed in KS4, build on in KS5 and take beyond school.		

UNITS OF WORK

1. Similarity & Congruence	2. Trigonometry	3. Equations & Inequalities	4. Simultaneous Equations
5. Angles and Bearings	6. Working with Circles	7. Vectors	8. Ratio and Fractions
9. Percentages and Interest	10. Probability	11. Delving into Data	12. Non-Calculator Methods
13. Types of Number and Sequences	14. Indices and Roots		

Main Fluency Development	Main Application Development	Assessment
<ul style="list-style-type: none"> Solve problems using properties of similar and congruent shape Use trigonometry and Pythagoras in to solve two and three-dimensional problems. Solve linear, quadratic and simultaneous equations, understand inequalities. Solve problems using angles including scale drawings and bearings. Understand circle properties, perform constructions, draw and interpret loci. Understand and use vector notation. Multiply divide add and subtract vectors. Compare and calculate with fractions, decimals and percentages. Understand and calculate theoretical, mutually exclusive probability. Organise, represent and analyse data. Understand bounds and use estimation and approximations in calculations. Extend sequence work to quadratic sequences. Use prime factors to find HCF and LCM 	<ul style="list-style-type: none"> Use place value in calculations with decimals, order positive and negative integers, round to dp and sf, use BIDMAS. Collect like terms, substitute into expressions, use laws of indices, multiply and factorise single brackets. Derive and apply properties of shapes and angles to solve problems, Identify and use congruence and similarity. Construct and interpret frequency and 2 way tables, pictograms, bar charts, line graphs. Compare distributions using averages and range. Convert between FDP, 4 ops with fractions, find fractions and percentages of amounts. Substitute into and rearrange formulae, expand and factorise double brackets. Use bearings, identify, describe, construct transformations, accurately measure lines and angles. Compare theoretical and experimental probabilities, Round to dp and sf, make estimates, use inequality notation for limits of accuracy. Derive and solve simultaneous equations using algebra and graphs, solve and represent inequalities on number lines. Construct triangles and compass and ruler constructions, solve loci problems. 	<ul style="list-style-type: none"> Where appropriate shadow test and end of topic tests for each unit of work. PPE in June.
		Curriculum Enrichment
		Real life applications addressed through problem solving, use of ICT where relevant, variety of activities to enforce and embed concepts and retrieval activities used for ongoing revision. Use of metacognition to encourage students to think about their learning and improve their progress.
EDI/SMSC/British Values/Careers		Literacy/Numeracy
<ul style="list-style-type: none"> Understand data in the news, finance, shopping, basics needed for many careers and functioning outside the school setting. Know that maths was discovered and codified by peoples of all genders and ethnicities. 		Contextual problem solving.



Curriculum Overview



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UNITS OF WORK

Gradients & Lines	Non-Linear Graphs	Using Graphs	Expanding and Factorising
Changing the Subject	Functions	Multiplicative Reasoning	Geometric Reasoning
Algebraic Reasoning	Transforming & Constructing	Listing and describing	Show That..

Main Fluency Development	Main Application Development	Assessment
<ul style="list-style-type: none"> Understand plot and define linear and non-linear graphs. Solve problems using real life and more abstract graphs. Manipulate algebra using a range of skills including expanding, factorising, simplifying, substituting and solving. Apply transposition of formula where the desired subject appears once or more than once in the equation. Use reasoning in a variety of contexts including arithmetic, geometric and algebraic to solve problems and present mathematical arguments. Transform shapes in two dimensions. Understand and interpret transformations of graphs including trigonometric graphs. Solve probability problems involving more than one event including independent and dependent events. Use formal proof in a variety of mathematical contexts. 	<ul style="list-style-type: none"> Make links between equations and the appearance of linear graphs. Make links between the shape of a non-linear graph and its corresponding equation. Apply algebra to abstract problem solving. Use transposition of formula to solve multi-step problems Substitute into and rearrange formulae, expand and factorise double brackets. Use, describe and identify different types of transformation. Compare theoretical and experimental probabilities, Understand and use function notation. Calculate experimental probabilities and solve problems using knowledge of probability by selecting appropriate methods. Understand and communicate formal proof including geometric and algebraic proof 	<ul style="list-style-type: none"> Where appropriate shadow test and end of topic tests for each unit of work. PPE in January
SMSC/British Values/Careers	Literacy/Numeracy	Curriculum Enrichment
<ul style="list-style-type: none"> Understand data in the news, finance, shopping, basics needed for many careers and functioning outside the school setting. Know that maths was discovered and codified by peoples of all genders and ethnicities. 	<ul style="list-style-type: none"> Contextual problem solving. 	Real life applications addressed through problem solving, use of ICT where relevant, variety of activities to enforce and embed concepts and retrieval activities used for ongoing revision. Use of metacognition to encourage students to think about their learning and improve their progress.

