

: Year 9/10 Curriculum and Assessment Map

Year	9&10 Subject Mathematics					
Intent	<p>Year 9 and 10 Mathematics encourages the development of knowledge and understanding in Maths. The curriculum is designed to allow students the opportunity to:</p> <ul style="list-style-type: none"> - Develop mathematical knowledge and conceptual understanding through the disciplines of Number, Algebra, Ratio and Proportion, Statistics and Geometry - Develop an understanding of the nature, processes, and methods of Mathematics, through mathematical enquiries that help them to answer mathematical, computing, and scientific questions about the world around them - Develop and learn to apply logical thinking, enquiry, and problem-solving skills in any field and in other learning environments - Develop their ability to evaluate claims through critical analysis and about the world around them 					
	Implementation	September - December		January - March		April - July
<p><u>N1: Integers, place value and decimals</u></p> <p>N1: order positive and negative integers and decimals; use the symbols =, ≠, <, >, ≤, ≥ N2: apply the four operations, including formal written methods, to integers and decimals– both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals) N3: recognise and use</p>		<p>S1: Properties of shapes, parallel lines and angle facts</p> <p>G1: use conventional terms and notation: G3: apply the properties of angles</p> <p>D1: Tables, charts and graphs</p> <p>G14 use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.) G15 measure line</p>	<p>N2: Fractions, decimals and percentages</p> <p>N1: order fractions; use the symbols =, ≠, <, >, ≤, ≥ N2: apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers N8: calculate exactly with fractions ... N10: work interchangeably with terminating decimals and their corresponding fractions</p> <p>Algebra Review</p> <p>Aa Distinguish the</p>	<p>N3: Indices, Powers, Roots, Factors, Multiples and Primes</p> <p>N4: use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem [S] N5: apply systematic listing strategies</p>	<p>Areas and Perimeter</p> <p>G14: use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.) G16: know and apply formulae to calculate: area of triangles, parallelograms, trapezia G17: calculate: perimeters of 2D shapes</p>	<p>Representing Data Review</p> <p>SPg Produce charts and diagrams for various data types SPi Interpret a wide range of graphs and diagrams and draw conclusions SPk Recognise correlation and draw and/or use lines of best fit by eye, understanding what these represent</p> <p>Revision for End of year test</p> <p><u>N1: Integers, place value and decimals</u></p>

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<p>relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals N14: estimate answers; check calculations using approximation and estimation, including answers obtained using technology N15: round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures)</p> <p><u>A1: Expressions, substitution, expanding and factorising</u></p> <p>A1 use and interpret algebraic notation, including: A2 substitute numerical values into formulae and</p>	<p>segments and angles in geometric figures ... S2 interpret and construct tables, charts and diagrams, including frequency tables</p> <p>S1: Properties of shapes, parallel lines and angle facts</p> <p>G1: use conventional terms and notation: G3: apply the properties of angles</p> <p>S2: Interior and exterior angles of polygons</p> <p>G3: derive and use the sum of angles in a triangle (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons) G11: solve geometrical problems on coordinate axes</p>	<p>different roles played by letter symbols in algebra, using the correct notation Ab Distinguish in meaning between the words 'equation', 'formula' and 'expression' Ac Manipulate algebraic expressions by collecting like terms, by multiplying a single term over a bracket, and by taking out common factors Af Derive a formula, substitute numbers into a formula</p> <p>Probability</p> <p>SPm Understand and use the vocabulary of probability and probability scale SPn Understand and use estimates or measures of probability from theoretical models (including equally likely outcomes), or from relative frequency SPo List all outcomes for single events, and for two successive events, in a systematic way and derive relative probabilities SPp Identify different mutually exclusive</p>	<p>Areas and Perimeter</p> <p>G14: use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.) G16: know and apply formulae to calculate: area of triangles, parallelograms, trapezia G17: calculate: perimeters of 2D shapes</p>		<p>S1: Properties of shapes, parallel lines and angle facts N2: Fractions, decimals and percentages</p>
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	<p>expressions, including scientific formulae</p> <p>A3 understand and use the concepts and vocabulary of expressions, equations, formulae, <u>identities</u>, inequalities, terms and factors</p> <p>A4 simplify and manipulate algebraic expressions</p> <p>A5 understand and use standard mathematical formulae; rearrange formulae to change the subject</p> <p>A6 <u>know the difference between an equation and an identity; argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</u></p> <p>A7 where appropriate, interpret simple expressions as functions with inputs and outputs</p>	<p>A3: Equations and inequalities</p> <p>A21 <u>translate simple situations or procedures into algebraic expressions or formulae; derive an equation, solve the equation and interpret the solution</u></p> <p>A22 <u>solve linear inequalities in one variable; represent the solution set on a number line</u></p>	<p>outcomes and know that the sum of the probabilities of all these outcomes is 1</p> <p>SPs Compare experimental data and theoretical probabilities</p> <p>Spt Understand that if they repeat an experiment, they may – and usually will – get different outcomes, and that increasing sample size generally leads to better estimates of probability and population characteristics</p>			
Impact	<p>AP1</p> <p><i>End Aut 2 Diagnostic Assessment</i></p>		<p>AP2</p> <p><i>End Spring 1 Diagnostic Assessment</i></p>		<p>AP3</p> <p>(GCSE past paper questions)</p>	<p><i>End Summer 1 Diagnostic Assessment</i></p> <p>End of year test.</p>