Year 8 Mathematics Curriculum Map

NUMBER

SHAPE, SPACE AND MEASURE

ALGEBRA

RATIO AND PROPORTION

STATISTICS AND PROBABILITY

Year 8 Mathematics Curriculum Map

Year 8 Unit of work	Skills learnt
Number Properties & Calculations	- Addition/subtraction/Multiplication/Division using different strategies, including decimals and negative numbers. - Factors, multiples and primes, including HCF and LCM - Understand and use BIDMAS - Develop calculator skills - Round to decimal places and significant numbers. - Understand effects on calculations involving estimation/approximation - Recognise powers of 2, 3, 4, 5 and associated real roots
Ratio & Proportion	- Write and relate ratio to fractions and algebra - Solve worded problems with given ratio and whole quantity, part or difference in quantity - Use ratio in scale drawings and maps - Use ratio for recipe scaling - Solve worded problems involving direct and inverse proportion
Assessment 1	
Algebra	- Understand and use algebraic notation - Construct algebraic expressions - Simplify algebraic expressions by collecting like terms - Simplify algebraic expressions by taking out common factors. - Identify the difference between an expression, equation, formula and identity - Model situations or procedures by translating them into algebraic expressions or formulae - Substitute into formulae including negative numbers - Expand single and double brackets - Rearrange formula - Construct and solve linear equations - Solve simple quadratic equations - Rearrange formulae to change the subject
Sequences and graphs	- Recognise and plot straight line graphs - Calculate and interpret gradients and intercepts graphically and algebraically. - Recognise and use the general form y= mx + c - Model situations and find approximate solutions to contextual problems from given graphs - Recognising arithmetic, geometric and other sequences - Generate terms of a sequence - Find the nth term expression for an arithmetic sequence - Recognise geometric sequences and appreciate other sequences that arise
Assessment 2	

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Angles and shapes	- Apply knowledge of angle facts, including parallel lines, to calculate angles in geometric problems using appropriate written conventions. - Apply knowledge of geometric properties of 2D shapes to calculate angles. - Derive and use exterior and interior angles in polygons - Use the standard ruler and compass constructions
Perimeter, area and volume	- Calculate and solve circle problems involving circumference and area. - Deduce and use the area of a triangle, parallelogram, trapezium and compound shapes - Use Pythagoras' Theorem to solve problems involving right-angled triangles. - Derive and apply formulae to calculate volume of prisms, including cylinders - Explore more complex 3D shapes and related formulae - Convert freely between related units; length, area, volume/capacity, mass
Assessment 3	
Fractions	- Perform all four operations with positive and negative improper fractions and mixed numbers - Work interchangeably between fractions, decimals and percentages - Compare quantities using percentages - Work with percentages greater than 100% - Express one quantity as a percentage of another - Interpret fractions and percentages as operators
Probability	- Use appropriate probability language to record, describe and analyse outcomes of simple probability experiments - Use and understand the 0-1 probability scale - Generate and use ample spaces for single and combined events to calculate theoretical probabilities - Make comparisons between theoretical and experimental probability
Assessment 4	
Statistics	- Record, interpret and compare discrete, continuous and grouped data through appropriate graphical representation and measures of average and spread - Construct and compare pie charts - Use scatter graphs and correlation to illustrate simple mathematical relationships. - Use scatter graphs for estimate, understanding limitations.
Assessment 5	
Everyday Maths and Finance	- Apply mathematical skills to real life finance. - Budgeting/Saving - Pay slips/Bank statements/Tax
Assessment 6 – End of year Exam	

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