



MATHEMATICS

CURRICULUM PLANS FOR KS3

Mathematics Curriculum Structure

In Mathematics, a broad and progressive curriculum is delivered across all year groups. In Years 7, 8 and 9, our cohort is organised into five sets. The table below provides an overview of the core knowledge and skills taught each half term. However, a more detailed breakdown of topics for each set is available in our departmental Order of Work, which can be accessed via the Curriculum section of the school website [MATHEMATICS – Beal High School](#).

	WINTER 1	WINTER 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 7	Number skills are strengthened through place value, rounding and operations with integers, decimals and negative numbers. Algebra is introduced with notation, simplifying and basic equations, alongside indices.	Algebra develops with substitution, sequences, expanding brackets and solving equations. Shape work covers polygons, 3D solids and circles, with measures and unit conversions.	Angles are studied in lines, triangles, quadrilaterals, parallel lines and polygons. Number work covers factors, multiples, primes, HCF/LCM and fractions.	Perimeter, area and volume are developed, including circles. Fractions are consolidated through equivalence, ordering and fractions of amounts, and direct proportion is introduced.	Data handling covers averages, frequency tables and charts. Ratio and scale are introduced. Coordinates, transformations and symmetry lead into straight-line graphs and $y = mx + c$.	Fractions, decimals and percentages are consolidated. Probability is introduced with sample spaces and systematic listing. Constructions, scale drawings and early Pythagoras strengthen geometry.



	WINTER 1	WINTER 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 8	Number is revisited with directed numbers, decimals and order of operations. Index laws, expanding brackets and equations develop algebra, while percentages cover amounts, change and value for money.	Sequences are extended with position-to-term rules. Ratio and scale diagrams are consolidated. Rounding to significant figures, estimation, coordinates and midpoints are also taught.	Area extends to parallelograms, trapeziums and circles. Standard form is introduced and averages are calculated from tables. Prime factorisation, bearings and factorising are studied.	Probability develops with mutually exclusive events and Venn diagrams. Nets, surface area and volume are studied, alongside rearranging formulae, translations and reflections.	Graphs feature strongly, including equations of lines and distance-time graphs. Transformations add rotation and enlargement, with angles in parallel lines. Inequalities, compound measures and simultaneous equations are introduced.	Direct and inverse proportion are taught with congruent triangles and relative frequency. Polygons, constructions, similarity and Pythagoras' theorem are studied, with scatter graphs, cumulative frequency and box plots.



	WINTER 1	WINTER 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 9	Fractions, decimals and percentages are extended to percentage change and compound interest. Linear inequalities are solved. Probability develops with tree diagrams, and standard form is used in calculations.	Quadratic equations are factorised and solved. Circle work covers arc length, sector area, and volume and surface area of cylinders, cones and spheres. Formulae are rearranged and constructions consolidated.	Straight-line graphs are extended to gradient, $y = mx + c$ and parallel lines. Ratio and proportion cover direct and inverse proportion. Distance-time graphs and plans and elevations are introduced.	Compound measures and Pythagoras' theorem in 2D and 3D are studied. Angles cover parallel lines, polygons and bearings. Rounding extends to bounds, error intervals and estimation.	Quadratic graphs are plotted and interpreted. Similarity and congruence lead into trigonometry, with SOHCAHTOA, exact values and the sine and cosine rules. Transformations include enlargement.	Handling data covers scatter graphs, grouped data and frequency polygons. Indices and surds are developed. Vectors, cubic and reciprocal graphs, and Venn diagrams with set notation are studied.

Note: This is a broad summary, however, topics for individual teaching sets could be different and a detail information can be found in our order of work which can be found on the school website.