SUBJECT CURRICULUM PLAN

HASMONEAN
אל תקרי בניך אלא בוניך

SUBJECT:	Mathematics	YEAR GROUP:	Year 7
SUBJECT INTENT:	To develop foundational numeric fluency, algebraic reasoning, and spatial awareness, transitioning pupils smoothly from primary education to rigorous secondary mathematical structures.		

Autumn Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Autumn	Number Skills	Place value, ordering positive integers, column addition/subtraction, long multiplication, short division (bus stop method), odd/even properties, and real-life negative numbers.	Integers, place value, four operations, vertical number lines, negative numbers.	Connects directly to Key Stage 2 arithmetic. Establishes core notation and numeric foundations necessary for all subsequent algebra and measurement topics.
Autumn	Indices and Roots	Defining and calculating squares, cubes, square roots, cube roots, and understanding positive integer exponents.	Bases, exponents, powers, roots, inverse operations.	Progresses from integer multiplication. Forms the direct basis for understanding standard form and advanced index laws in Year 8.
Autumn	Factors and Multiples	Identifying factors, multiples, prime numbers, Lowest Common Multiple (LCM), and Highest Common Factor (HCF).	Primes, factors, multiples, prime decomposition.	Builds on multiplication/division mechanics. Directly sequences into simplifying fractions and finding common denominators in later algebraic terms.

Spring Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Spring	Expressions and Equations	Introduction to algebraic notation, collecting like terms, expanding single brackets, and solving basic linear equations.	Variables, coefficients, expressions vs. equations, inverse balancing operations.	Transitions from abstract arithmetic into formal algebraic structures. Sequences into multi-step equations with variables on both sides in Year 8.
Spring	Decimals, Rounding & %	Place value of decimals, ordering decimals, rounding to specified decimal places or significant figures, and	Approximation, decimal scaling, percentage equivalence,	Progresses from core number skills. Prepares students for practical financial contexts, real-

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		finding percentages of amounts.	fraction-decimal-percentage (FDP) links.	world measurements, and Year 8 error estimation.
Spring	Ratio and Proportion	Understanding ratio notation, simplifying ratios, sharing quantities in a given ratio, and resolving unitary proportion problems.	Part-to-part vs. part-to-whole relationships, scale factors, multiplicative scaling.	Connected to division and fractions. Lays essential groundwork for direct proportion, conversion graphs, and scaling in Year 8 and Key Stage 4.

Summer Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Summer	Angle Rules	Classifying and estimating angles, measuring accurately with protractors, and solving for angles on a straight line, around a point, and inside basic shapes.	Degrees, geometric definitions (acute, obtuse, reflex), parallel lines, interior properties.	Combines arithmetic calculation with spatial visualization. Prepares students for advanced properties of parallel lines and trigonometry in Year 9.
Summer	2D Shapes: Area & Perimeter	Finding the perimeter and area of squares, rectangles, triangles, parallelograms, and trapeziums.	Perimeter, area boundaries, 2D geometric properties, compound shapes.	Extends primary geometric intuition. Core area calculations are required immediately to compute cross-sectional surfaces for 3D volumes.
Summer	3D Shapes	Identifying properties of 3D solids (specifically cuboids), understanding nets, and calculating surface areas and volumes.	3D space, faces, edges, vertices, volume capacity, nets.	Builds directly upon 2D area concepts. Acts as a pre-requisite for Year 8 general prisms and cylinders.

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SUBJECT:	Mathematics	YEAR GROUP:	Year 8
SUBJECT INTENT:	To deepen algebraic mastery, introduce functional and graphical representation, and extend spatial and data handling proficiencies to a formal analytical level.		

Autumn Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Autumn	Sequences	Identifying number and diagram patterns, understanding term-to-term rules, finding the nth term formula for arithmetic sequences, and identifying special series.	Term, position-to-term rule, linear sequence, arithmetic progression, nth term formula.	Builds upon Year 7 algebraic expression rules. Bridges directly into graph plotting and linear functions.
Autumn	Graphs (Linear)	Coordinates across 4 quadrants, midpoints, drawing vertical/horizontal lines, and investigating linear relationships via y = mx + c.	Gradient (steepness), y-intercept, linear equation, coordinate tables, substitution.	Extends Year 7 coordinate work. Directly connects formula manipulation to spatial trends, laying down core foundations for GCSE coordinate geometry.
Autumn	Indices & Standard Form	Reviewing squares/cubes, investigating negative and zero powers, and converting large/small ordinary numbers to and from standard form.	Exponents, base 10, scientific notation, place value scaling.	Advances directly from Year 7 indices. This topic is essential for manipulating scale across both advanced maths and secondary sciences.
Autumn	Bounds & Estimation	Rounding to significant figures, evaluating complex arithmetic estimations, and calculating upper/lower bounds and error intervals.	Approximation, significant figures, error intervals, level of accuracy.	Refines foundational rounding taught in Year 7. Essential for scientific measurements and engineering contexts in higher years.

Spring Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Spring	Equations & Formulae	Solving multi-step equations, balancing terms with variables on both sides, expanding brackets to solve, and rearranging geometric/worded formulae.	Balance method, variables, formula rearrangement, algebraic substitution.	Follows Year 7 linear equations. Establishes the fluency required to process simultaneous equations and quadratics at

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				Key Stage 4.
Spring	Percentages	Applying percentage increase/decrease, working with decimals as multipliers, calculating simple interest, and solving reverse percentage problems.	Percentage change, multipliers, financial maths, inverse percentage calculation.	Elevates Year 7 percentage properties to a higher functional standard, ensuring pupils have financial literacy before starting GCSE maths.
Spring	Ratios	Solving complex ratio sharing problems, working with fractional components, and establishing links with direct/inverse proportion.	Part-to-whole scaling, proportional constant, direct/inverse relationship.	Deepens Year 7 ratio structures. Prepares students for similarity, compound units (speed/density), and algebraic proportion models.
Spring	Averages and Range	Calculating and evaluating the mean, median, mode, and range from data series and discrete frequency tables.	Measures of central tendency, statistical dispersion, frequency distribution.	Establishes descriptive statistics skills. Prepares pupils for advanced data interpretation and analytical charts later in the year.

Summer Term Plan

TERM	TOPIC	CORE LEARNING	KEY CONCEPTS	SEQUENCING
Summer	Calculator Work	Efficient use of scientific calculators, correctly utilizing operational syntax (BIDMAS), fractions, brackets, and indices on calculators.	Scientific functions, hierarchy of operations, arithmetic syntax.	Embedded across all continuous learning; ensures functional efficiency ahead of independent exams.
Summer	Probability	Calculating probability scales, identifying the likelihood of single/combined events, and constructing sample space diagrams.	Theoretical probability, sample space, independent events, expected frequency.	Integrates Year 7 fractions and decimals into predicting randomness. Sequences into tree diagrams and conditional probability sets at Key Stage 4.
Summer	Circles	Defining parts of circles and calculating the circumference and area using the constant Pi (π).	Pi (π), diameter/radius relations, circumference boundary, circular area.	Blends algebraic substitution with geometric measurement. Prepares students for advanced cylindrical and spherical volume work.
Summer	Displaying Data & Prisms	Producing and analyzing complex charts (pie charts, stem-and-leaf); calculating volume/surface areas of	Graphical representation, cross-sectional area, 3D prism	Combines statistical and 3D geometric frameworks from Year 7 and Year 8. Finalizes

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		general prisms and cylinders.	volumes, total surface boundary.	the Key Stage 3 layout before transitioning to Edexcel GCSE pathways in Year 9.