Barr Beacon School
Curriculum Overview (2025-2026)

Mathematics and Statistics

Curriculum intent: Pupils will gain the understanding and knowledge that is required to inspire a passion in problem-solving and mathematics, enabling them to enter the workplace with resilience and transferrable skills.

Curriculum rationale: The key strands of mathematics run through each year group, Number, Ratio and Proportion Shape and Space, Geometry and Statistics and Probability in order to create a rounded mathematician. Pupil's knowledge is built upon their prior learning during each academic year, allowing previous concepts to be recalled and applied to a new concept. Pupils can continue their studies into Key Stage 5 by studying either A-level Mathematics or A-level Statistics.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	Four Operations Negative Numbers Ordering positive and negative integers Decimals and money Ordering fractions, decimals and percentages Factors, multiples and primes	Order of operations, powers and roots Algebraic manipulation Expanding and factorising brackets Representing data Properties of shapes Constructions and congruency Angles	Fractions Solving equations Measures Area, perimeter and volume	Coordinates and lines Rounding and estimation Percentages	Transformations Averages and the range Sequences Ratio and proportion	Ratio and proportion Probability Calculator skills
8	Four operations Standard form Ordering and comparing numbers BIDMAS, powers and roots Factors, multiples and primes Algebraic manipulations Fractions	Percentages Angles Ratio and proportion Measures and scales	Measures and scales Transformations Solving equations Constructions, plans and elevations	Representing data Area, perimeter and volume	Graphs Probability Rounding and estimation Analysing data	Analysing data Sequences Similarity and right-angled triangles Calculator skills
9	HCF and LCM Algebraic manipulations Expand and factorising brackets Fractions Pythagoras and trigonometry	Similar shapes Angles Ratio and proportion Ratio and proportion Graphs	Four operations Standard form Ordering and comparing numbers Solving equations Rounding and estimation	Probability Transformations Sequences	Constructions, plans and elevations Analysing data Area, perimeter and volume Percentages	Simple proofs Measures and scale Surds Representing data Calculator skills

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10F	Integers and place value Decimals Indices, powers and roots Factors, multiples and primers Algebra introduction Expressions and substitution into formulae	Tables, charts and graphs Pie charts Scatter graphs Fractions, decimals and percentages Percentages	Equations and inequalities Transformations Sequences Properties of shapes, parallel lines	Angle facts Angles in polygons Sampling methods Perimeter, area and volume	Real life graphs Straight line graphs Ratio	Proportion Right angles triangles, Pythagoras and trigonometry
10H	Calculations, checking and rounding Indices, roots, reciprocals, BIDMAS Factors, multiples and primes Standard form Surds Algebra introduction Sequences Averages and the range	Sequences Averages and the range Representing data Interpreting data Angles in polygons Pythagoras and trigonometry Fractions Percentages	Fractions Percentages Ratio and proportion Probability Real life graphs Linear graphs and co-ordinate geometry	Real life graphs Linear graphs and co-ordinate geometry Solving quadratic and simultaneous equations Inequalities Transformations Perimeter, area and circles	Solving quadratic and simultaneous equations Inequalities Transformations Perimeter, area and circles	Volume Bounds
11F	Probability Perimeter, area and volume Fractions	Indices and standard form Plans and elevations Constructions, loci and bearings Quadratic equations Quadratic graphs	Multiplicative reasoning Similarity and congruency Vectors	Similarity and congruency Vectors	Exam preparation	Exam preparation
11H	Circle theorems Circle geometry Expanding brackets Sketching graphs Further trigonometry	Transformations Constructions, loci and bearings Multiplicative reasoning Changing the subjects Similarity and congruency	Probability Collecting data Cumulative frequency, box plots and histograms Further trigonometry Trigonometry graphs	Vectors Reciprocals and exponentials Area under a graph and gradients of graphs Proportion	Exam preparation	Exam preparation
12 Maths	Algebra and functions Coordinate geometry Statistical sampling Data presentation Data interpretation Quantities and units in mechanics Kinematics	Coordinate geometry Further algebra Data presentation Data interpretation	Trigonometry Vectors (2D) Probability Statistical distributions Forces and Newton's laws	Differentiation Integration Statistical hypothesis testing Forces and Newton's laws	Exponentials and logarithms Kinematics	Algebraic and partial fractions Functions and modelling Series and sequences

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13 Maths	Proof Functions The binomial theorem Trigonometry Moments Forces at any angle	Trigonometry Differentiation The normal distribution Regression and correlation Probability Moments Forces at any angle	Trigonometry Differentiation Numerical methods Integration Statistical hypothesis testing Applications of kinematics	Integration Applications of forces Further kinematics	Vectors (3D) Regression and correlation Probability Exam preparation	Exam preparation
12 Stats	Central tendency Statistical enquiry cycle Probability Discrete random variable	Discrete random variable Binomial distribution Normal distribution	Sampling methods Correlation and regression Hypothesis testing	Hypothesis testing Sample mean distribution Non-parametric tests	Non-parametric tests Combining distributions	Combining distribution Poisson distribution