MATHEMATICS

Year 7

What are the aims and intentions of this curriculum?

Students are taught how to work with numbers, algebra, ratio, proportions and rates of change, geometry and measures, probabilities and statistics. At the end of each topic, a closing-the-gap-questionnaire in the form of a review sheet is required to be completed by the students. Homework will be given on a weekly basis and is expected to be completed online.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	*Analysing and displaying data*	Data, Frequency, axis, Vertical, hypothesis, sample, survey	Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use.	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment
	Number skills	integer, factor, factorisation, divisor, simplify, cancelation, inverse, notation	Order positive and negative integers, decimals and fractions; apply the four operations, use the concepts and vocabulary of prime numbers, factors (divisors, multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, use positive integer powers and associated real roots	
Autumn 2	*Expressions, functions and formulae.*	Term, variable, coefficient, like term, expression, formulae, equation, function inequality, significant, interval, factor, expand scale	Use and interpret algebraic manipulation, substitute numerical values into formulae and expressions, understand and use the concepts and vocabulary of expressions, equations, formulae, terms and factors, simplify, collect like term and expanding products of two or more binomials	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment
	Decimals and measures		Use standard units of mass, length, use scale factors, scale diagrams and maps, apply formulae to calculate: area of triangles, parallelograms, round number to appropriate degree of accuracy.	
Spring 1	*Fractions*	Quantity, Amount, Numerator, Denominator,	Add and subtract decimal, multiply and divide decimals, interpret fractions and percentages as operators, express one quantity as a fraction interchangeably with terminating decimals, fraction, and percentage.	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment
	Probability	Theoretic, exhaustive and mutual	Relate relative expected frequencies to theoretical probability, using appropriate language and the 0-1 probability scale. Apply the property that the probabilities of an exhaustive set of outcomes sum to one; apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one.	

Spring 2	*Ratio and proportion* *Lines and angles*	Simplify, ratio, proportion, increase, decrease, fraction Vertices, edges, planes, parallel line, perpendicular lines, polygons, symmetries, vertically opposite, alternate, corresponding angles, coordinates, quadrants, sequence, arithmetic	Express one quantity as a fraction of another, use ratio notation, divide a given quantity into two parts in a given part: part or part: whole ratio; apply ratio to real contexts and problems. Terms and notation: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, and polygons with reflection and/or rotation symmetries; apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles; understand and use alternate and corresponding angles on parallel lines; derive and apply the properties and definitions of special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language.	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment
Summer 1	*Sequences and graphs*	Term, sequence, arithmetic, geometric, quadrant	Work with coordinates in all four quadrants; plot graphs of equations that correspond to straight-line graphs in the coordinate plane; generate terms of a sequence from either a term-to-term or a position-to-term rule; recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions.	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment
Summer 2	*Transformations*	Congruence, scale factor, center of rotation and enlargement, image, object; clock and anti-clock wise, mirror line	Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS) and construct them, rotation, reflection, translation and enlargement of shapes.	End of topic review Homework Bookmarking Classroom feedback Half-term formal assessment