Mathematics-Year 9-11 GCSE Foundation Curriculum

Content (Intent)	**Links to prior learning**	**Skills and Assessment (Implementation)**	**Expected Learning Outcomes (Impact)**
Term 3 Year 9 Number Algebra	Integers and place value Decimals Indices, powers and roots Factors, multiples and primes (Year 7, term 1, 3, 4, 5 and 6) (Year 8, term 1, 3 and 4). Algebra: the basics Expressions and substitution into formulae. (Year 7, term 1) (Year 8, term 1)		Solve GCSE problems involving place value, indices, factors, multiples, primes, basic algebra and expressions.
Term 4 Year 9 Graphs, tables and charts Fractions and percentages	Tables, charts and graphs Pie charts Scatter graphs (Year 7, term 1) (Year 8, term 3) Fractions, decimals and percentages (Year 7, term 2) (Year 8, term 2)	Formal Assessment	Represent and analyse data using a variety of tables, charts and graphs. Solve problems using fractions and percentages and converting between the two.
Term 5 Year 9 Equations, inequalities and sequences	Equations and inequalities (Year 7, term 3) (Year 8, term 3) (Year 9, term 1) Sequences (Year 7, term 4) (Year 8, term 4) (Year 9, term 1)		Solve and manipulate equations and inequalities to solve problems. Form and evaluate linear sequences.

Term 6 Year 9 Angles	Properties of shapes, parallel lines and angle facts Interior and exterior angles of polygons (Year 7, term 2) (Year 8, term 2)	Formal Assessment	Retain and explore angle laws in parallel lines and shapes. Use properties of polygons to solve angle problems.
Term 1 Year 10 Averages and Range Perimeter, area and Volume	Statistics, sampling and the averages (Year 7, term 3) (Year 8, term 1) Perimeter, area and volume (Year 7, term 2 and 4) (Year 8, term 1 and 4) (Year 9, term 1)	Formal Assessment	Explore statistics and random sampling technique. Evaluate measures of average and spread from lists and tables. Compare datasets using measures of average and spread. Calculate and solve problems with measures used in 2D and 3D shapes.
Term 2 Year 10 Graphs Transformations	Real-life graphs Straight-line graphs (Year 7, term 2 and 3) (Year 8, term 2) Transformations (Year 7, term 3) (Year 8, term 3) (Year 9, term 2)		Draw and interpret real life graphs. Plot and solve problems involving linear graphs such as identifying equation of a line and gradient. Perform and describe transformations and representing multiple transformations as a single transformation. Relate transformations to similarity and congruence.
Term 3 Year 10 Ratio and Proportion	Ratio Proportion	Formal Assessment	Manipulate and solve problems with ratios.

Right Angled Triangles	(Year 7, term 5) (Year 8, term 5) (Year 9, term 2) Right-angled triangles: Pythagoras Trigonometry (Year 7, term 1 and 2) (Year 8, term 1 and 6) (Year 9, term 1)		Use the unitary method and understand the difference between direct and inverse proportion. Find missing angles and sides using Pythagoras' theorem and trigonometry. Solving problems with them.
Term 4 Year 10 Probability Multiplicative Reasoning	Solving Probability problems (Year 7, term 5) (Year 8, term 5) (Year 9, term 2) Multiplicative reasoning (Year 7, term 1, 2 and 5) (Year 8, term 1, 2 and 5) (Year 9, term 1 and 2)		Draw and interpret from probability diagrams. Solve multiplicative problems such as with compound measures, percentage change, reverse percentages, compound interest, ratio comparisons and ratio equations.
Term 5 Year 10 Revision for end of Year Exam		End of Year 10 Exams	Consolidate knowledge from the first 14 chapters.
Term 6 Year 10 Construction Quadratic equations and graphs	Plans and elevation Constructions, loci and bearings (Year 7, term 4) (Year 8, term 4) (Year 9, term 1 and 2) Quadratic equations: expanding and factorising Quadratic equations: graphs (Year 7, term 2 and 3) (Year 8, term 1 and 2)		Construct triangles using basic congruency criteria. Construct plans and elevations form 3D shapes. Construct and interpret scale drawings and bearings. Expand, factorise and solve quadratic expressions and equations. Plot, sketch and find roots from quadratic graphs.

Term 1 Year 11 Perimeter, area and volume Fractions, indices and standard form Congruency, similarity and vectors	Circles, cylinders, cones and spheres (Year 7, term 1 and 4) (Year 8, term 1 and 4) (Year 9, term 1) Fractions and reciprocals (Year 7, term 2) (Year 8, term 2) Indices and standard form (Year 7, term 2) (Year 8, term 1) (Year 9, term 1) Similarity and congruence in 2D Vectors (Year 7, term 1 and 3) (Year 8, term 1 and 3) (Year 9, term 1 and 2)		Find perimeter, area and volume with 2D and 3D shapes involving shapes. Apply the four operations to fractions. Convert between and calculate standard form. Understand and calculate and use index laws. Understand the conditions of congruent and similar triangles. Calculate and understand the laws of vectors.
Term 2 Year 11 *Mock Exams 1* More Algebra	Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations (Year 7, term 2 and 3) (Year 8, term 2 and 3) (Year 9, term 1)	Mock Examination	Rearrange equations using algebraic techniques. Recognise and plot graphs of cubic and reciprocal functions. Solve simultaneous equations.
Term 3 Year 11 **Revision**			Consolidate content knowledge.
Term 4 Year 11 *Mock Exam 2* Revision with past papers		Mock Examination	Consolidate content knowledge.
Term 5 Year 11 Revision with past papers			Consolidate content knowledge.

Additonal features:

All units are cross referenced to KS3 teaching to ensure continuity.

Each unit and each topic have a specific number of hours allocated to it.

Formative (deep marking/End of unit test) and summative assessment dates have been included to ensure students progress is accurately and timely measured.

A cross-curricular section is introduced to allow students to apply the knowledge gained in other contexts. E.g. science, D.T etc.

Reference to ICT; MyMaths, ActiveLearn, mathsbot and mathsbox.