BRANNEL SCHOOL
EXCELLENCE | CREATIVITY | COMMUNITY

Curriculum Summary Document

Year 10 – Maths

Module/Unit of Learning	Taught During	What will students learn?	How does this prepare students for success at GCSE?	Links to other Subjects
Pythagoras	Autumn Term 1	Students revisit squares, cubes and roots before applying these to right-angled triangles, using Pythagoras' theorem in both routine and problem-solving contexts.	Builds essential geometric fluency for GCSE by enabling accurate solving of right-angled triangle problems and interpreting diagrams confidently.	Science: applying formulae in physics contexts Geography: interpreting scale and distance
Angles (4+/5+/X)	Autumn Term 1	Students consolidate angle rules in triangles, quadrilaterals and parallel lines, applying them to increasingly varied geometric problems.	Strengthens the angle reasoning and justification skills required for GCSE geometry questions.	Design Technology: interpreting technical drawings Science: ray diagrams and reflection
Trigonometry (6+/7+/8+)	Autumn Term 1	Students learn and apply sine, cosine and tangent to find unknown sides and angles, progressing to mixed contextual problems.	Prepares students for GCSE trigonometry by ensuring accurate method selection and interpretation of contextual diagrams.	Physics: resolving forces and waves Geography: bearings and navigation
Percentages	Autumn Term 1	Students strengthen key percentage skills including increase/decrease, reverse percentages and compound interest.	Equips students with the percentage and proportional reasoning needed for financial maths and multi-step GCSE problems.	Business: interest and revenue calculations Science: percentage change in experiments
Equations Linear and Quadratics	Autumn Term 1 and 2	Students solve linear and quadratic equations, link equations to graphs and revisit factorising to support solving.	Builds core algebra skills needed for GCSE, including solving equations and linking algebraic forms to graphical representations.	Science: rearranging equations in physics and chemistry
Circles	Autumn Term 2	Students recap circumference and area before applying formulas to sectors and compound shapes. Higher tier extend to circle theorems.	Provides essential fluency with circle formulas and prepares higher-tier students for reasoning-based questions involving theorems.	Design Technology: arcs and technical drawing Science: circular motion concepts
Representing data	Autumn Term 2	Students revisit averages and charts, progressing to cumulative frequency, box plots and histograms at higher tier.	Develops GCSE-ready statistical interpretation and comparison across varied graph types.	Science: analysing experimental data
Inequalities	Autumn Term 2	Students solve linear inequalities, represent solutions, and work with bounds and error intervals. Higher tier extend to quadratic inequalities.	Strengthens GCSE algebraic reasoning, including representing inequalities and using bounds accurately in calculations.	Computer Science: conditions and logic Science: interpreting ranges and tolerances

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Area and volume	Spring Term 1	Students recap key area formulas and extend to volume of prisms and cylinders, including problems involving missing lengths.	Secures key measurement skills required for GCSE multi-step geometry and practical application questions.	Geography: land use and mapping Science: density and capacity
Ratio	Spring Term 1	Students build fluency with ratio, sharing quantities and forming algebraic links to direct and inverse proportion.	Builds strong proportional reasoning used frequently across GCSE topics including scaling, sharing and modelling.	Food Technology: scaling recipes
Proportion, Compound Measures and Graphs	Spring Term 1 and 2	Students convert units, work with density and speed, and interpret distance–time graphs in practical contexts.	Prepares students for GCSE by ensuring confidence with compound measures and interpreting graphs in real-world contexts.	Science: speed, density, and rates
Sequences	Spring 2	Students revisit linear sequences and move on to recognising and forming nth-term rules for geometric and special sequences.	Strengthens GCSE algebraic generalisation and reasoning needed for forming and applying nth-term rules.	Computer Science: iteration and pattern recognition
Quadratic Sequences (6+/7+/8+)	Spring 2	Students identify quadratic patterns and use second differences to derive and apply nth-term expressions.	Ensures students can derive and use quadratic nth-term expressions, a key higher-tier GCSE skill.	
Congruency and Similarity	Summer 1	Students explore similarity in shapes, using scale factors for lengths, areas and volumes, then apply congruency rules.	Builds essential reasoning for GCSE geometry involving scale factors, proofs and multi-step shape problems.	Art: scaling drawings Design Technology: modelling objects
Probability	Summer Term 1 and 2	Students work with single and combined events, use set notation and tree diagrams, and apply probability to contextual problems.	Develops GCSE-ready skills in representing and analysing probability, including combined events and algebraic contexts.	Science: genetics and prediction Geography: risk analysis
Simultaneous Equations	Summer Term 2	Students solve simultaneous equations using elimination and substitution, progressing from simple to multi-step problems.	Strengthens algebraic problem-solving required for GCSE modelling and graph-based interpretation.	Science: solving rate and chemical equations
Algebraic Graphs		Students recap linear and quadratic graphs, identify key features and use graphs to solve equations.	Prepares students for GCSE graph interpretation, solving equations visually and linking algebra to geometry.	Science: interpreting and plotting graphs
Scales and constructions	Summer 2	Students use scale drawings, bearings and standard constructions, applying these	Builds accuracy and reasoning for GCSE constructions, bearings and loci applications.	Geography: map skills

		to loci and practical problems.		