: Year 11 Curriculum and Assessment Map

THE JUBILEE ACADEMY

Year11	Subject Mathematics

Intent

Year 11 GCSE Mathematics encourages the development of knowledge and understanding in Maths.
The curriculum is designed to allow students the opportunity to:
- Develop mathematical knowledge and conceptual understanding through the disciplines of Number, Algebra, Ratio and Proportion, Statistics and Geometry
- Develop an understanding of the nature, processes, and methods of Mathematics, through mathematical enquiries that help them to answer mathematical, computing, and scientific questions about the world around them
- Develop and learn to apply logical thinking, enquiry, and problem-solving skills in any field and in other learning environments
- Develop their ability to evaluate claims through critical analysis

Catch-up Tutoring sessions will be provided from September for students who are most behind, supporting their understanding of core concepts/topic knowledge and deepening and developing their core knowledge and skills. From November, individual targeted intervention sessions will be provided to fill further specific needs and gaps and to refine skills required for their Maths GCSE exam.

Implementation

September - December		January - March		April -June	
Content Descriptors	**Content Descriptors**	**Content Descriptors**	**Content Descriptors**	**Content Descriptors**	**Revision for ALL Topics**
Algebra (Aa) Review	Geometry and Measures (GM)	Numbers (Na) /Ratio	Ar Construct linear functions from real-life problems and plot their corresponding graphs	Geometry and Measures (GM)	
Aa Distinguish the different roles played by letter symbols in algebra, using the correct notation	GMb Understand and use the angle properties of triangles and quadrilaterals	Na Add, subtract, multiply and divide any number	As Discuss, plot and interpret graphs (which may be non-linear) modeling real situations	GMx Calculate perimeters and areas of shapes made from triangles and rectangles	**GCSE Maths Paper 1 Non Calc exam on May 14-15th**
Ab Distinguish in meaning between the words 'equation', 'formula' and 'expression'	GMd Recall the properties and definitions of special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus	Nh Understand equivalent fractions, simplifying a fraction by canceling all common factors		GM z Find circumferences and areas of circles	**GCSE Maths Calc exam June 1-2rd**
		Ni Add and subtract fractions	At Generate points and plot graphs of simple quadratic functions, and use these to find approximate solutions	GM g Use Pythagoras' theorem in 2-D	**GCSE Maths Calc exam June 6-8th**
Ac Manipulate algebraic expressions by collecting like terms, by multiplying a single		Nq Understand and use number operations and the relationships between them, including inverse operations and hierarchy of operations		G20 know the formulae for: Pythagoras' theorem $a^2 + b^2 = c^2$, and the trigonometric ratios, $\sin \theta = $ opposite hypotenuse , $\cos \theta = $ adjacent hypotenuse and	

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term over a bracket, and by taking out common factors

Af Derive a formula, substitute numbers into a formula

Ad Set up and solve simple equations

Af Substitute numbers into a formula and change the subject of a formula

Ag Solve linear inequalities in one variable, and represent the solution set on a number line

Nm Use percentage

Nv Use calculators effectively and efficiently

Statistics and Probability (SP)

SPn Understand and use estimates or measures of probability from theoretical models (including equally likely

GMf Understand congruence and similarity
GMk Use 2-D

representations of 3-D shapes
Gma Calculate volumes of right prisms and shapes made from cubes and cuboids

Geometry and Measures (GM)

GMo Interpret scales on a range of measuring instruments and recognise the inaccuracy of measurements

GMp Convert measurements from one unit to another

GMq Make sensible estimates of a range of measures

GMs Understand and use compound measures

GMt Measure and draw lines and angles

Nu Approximate to specified or appropriate degrees of accuracy including a given power of ten, number of decimal places and significant figures

Nl Understand that 'percentage' means 'number of parts per 100' and use this to compare proportions
No Interpret fractions, decimals and percentages as operators

Np Use ratio notation, including reduction to its simplest form and its various links to fraction notation

Nt Divide a quantity in a given ratio

Au Direct and indirect proportion

GMo Interpret scales on a range of measuring instruments and recognise the inaccuracy of measurements

Ns Calculate upper and

A6 Simultaneous and Quadratic Equations (Higher)

Geometry and Measures (GM)

GMv Use straight edge and a pair of compasses to do constructions

GMw Construct loci

GMm Use and interpret maps and scale drawings

GMr Understand and use bearings

Statistics and Probability (SP)

SPg Produce charts and diagrams for various data types

SPi Interpret a wide range of graphs and diagrams and draw conclusions

SPk Recognise correlation and draw and/or use lines of best fit by eye, understanding

tan θ = opposite adjacent ; apply them to find angles and lengths in right-angled

A8 Quadratic and Linear Simultaneous Equations (Higher)

S9 Volume and Surface Area of Complex Shapes & Advanced Trigonometry (Higher)

outcomes), or from relative frequency **SPo** List all outcomes for single events, and for two successive events, in a systematic way and derive relative probabilities **SPp** Identify different mutually exclusive outcomes and know that the sum of the probabilities of all these outcomes is 1 **SPs** Compare experimental data and theoretical probabilities **SPm** Understand and use the vocabulary of probability and probability scale	**GMi** Distinguish between centre, radius, chord, diameter, circumference, tangent, arc, sector and segment	**lower bounds (Higher)** Algebra **(Ak)** /Graph Review **Ak** Use the conventions for coordinates in the plane and plot points in all four quadrants, including using geometric information **Al** Recognise and plot equations that correspond to straight-line graphs in the coordinate plane, including finding gradients	what these represent

AP1	AP2	AP3

| Impact | | *Winter Mock Exams*
GCSE Paper 1 | *Spring 1 Core Mock*
Spring1 Diagnostic Assessment
GCSE Paper 1
GCSE Paper 2 | *Spring Mock Exams*
External Spring Exams
NEAs

GCSE Foundation/Higher
Paper 1
Paper2
Paper3 | *External Summer National Exams*

Final GCSE Exam Edexcel
GCSE Foundation/Higher
May 16th Paper 1
June 3th Paper2
June 10th Paper3 |

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