Year 11

Subject Name:	Mathematics

Key Stage 4 (GCSE)

Curriculum Intent Statement

Our curriculum will encourage pupils to be efficient, resilient problems solvers, able to apply their mathematical skills to any real life context they encounter after leaving the academy.
Through learning mathematics, our pupils will develop the logical thinking skills to break problems in a wide range of contexts into manageable steps.
Pupils will embrace the interconnected nature of the concepts within mathematics and how mathematics can be applied to contexts within everyday life, academia and careers. Their mathematical skills and knowledge will open doors for our pupils to select whichever future path they choose.

Autumn Term 1

Higher

- Perimeter, area and circles
- 3D forms and volume, cylinders, cones and spheres
- Accuracy and bounds
- Calculations, checking and rounding
- Indices, roots, reciprocals and hierarchy of operations
- Factors, multiples and primes
- Standard form and surds
- Algebra: the basics
- Setting up, rearranging and solving equations
- Sequences

Foundation

- Integers and place value
- Decimals
- Indices, powers and roots
- Factors, multiples and primes
- Algebra: the basics
- Expanding and factorising single brackets
- Expressions and substitution into formulae
- Probability I
- Probability II
- Multiplicative reasoning

Autumn Term 2

Higher

- Transformations
- Constructions, loci and bearings
- Solving quadratic and simultaneous equations
- Inequalities
- Averages and range
- Representing and interpreting data
- Scatter graphs
- Fractions
- Percentages
- Ratio and proportion

Foundation

- Tables
- Charts and graphs
- Pie charts
- Scatter graphs
- Fractions
- Fractions, decimals and percentages
- Percentages
- Plans and elevations
- Constructions, loci and bearings
- Quadratic equations: expanding and factorising
- Quadratic equations: graphs

<table>
<tr><th colspan="2">Spring Term 1</th></tr>
<tr><td>Higher
Probability
Multiplicative reasoning
Similarity and congruence in 2D and 3D
Graphs of trigonometric functions
Further trigonometry
Polygons, angles and parallel lines
Pythagoras' Theorem and trigonometry</td><td>Foundation
Equations
Inequalities
Sequences
Properties of shapes, parallel lines and angle facts
Interior and exterior angles of polygons
Circles, cylinders, cones and spheres
Fractions and reciprocals
Indices and standard form</td></tr>
<tr><th colspan="2">Spring Term 2</th></tr>
<tr><td>Higher
Collecting data
Cumulative frequency, box plots and histograms
Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics
Perimeter, area and circles
3D forms and volume, cylinders, cones and spheres
Accuracy and bounds</td><td>Foundation
Statistics and sampling
The averages
Perimeter and area
3D forms and volume
Similarity and congruence in 2D
Vectors
Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations</td></tr>
<tr><th colspan="2">Summer Term 1</th></tr>
<tr><td>Higher
Graphs: the basics and real-life graphs
Linear graphs and coordinate geometry
Quadratic, cubic and other graphs
Vectors and geometric proof
Reciprocal and exponential graphs; Gradient and area under graphs
Direct and inverse proportion</td><td>Foundation
Real-life graphs
Straight-line graphs
Transformations I: translations, rotations and reflections
Transformations II: enlargements and combinations
Ratio
Proportion
Right-angled triangles: Pythagoras and trigonometry
Revision</td></tr>
<tr><th colspan="2">Summer Term 2</th></tr>
<tr><td>Higher
Exams</td><td>Foundation
Exams</td></tr>
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