

GREAT BARR

A SPECIALIST SCIENCE COLLEGE



ACADEMY

IGNITING

POTENTIAL



MATHEMATICS



Department Ethos:

We inspire our students to become fluent in mathematical methods and concepts allowing them to develop an analytical mind capable of dealing with numerical challenges. We aim for students to acquire, select and apply mathematical techniques to solve problems in the real world and in their future careers.



MATHEMATICS

CONTACT US

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Year 7

List of Topics Covered

Number - Positive and negative number;
Multiplication and division; BIDMAS; fractions

Algebra – Sequences; Expressions and products; Solving equations; Linear graphs

Geometry - Perimeter and area; Volume and surface area; Angles; transformations

Statistics – Averages; Frequency diagrams; Probability

Year 8

Number - Fractions, decimals and percentages; Factors, multiples and primes; Improper fractions and mixed numbers

Algebra – Substitutions; Expanding and factorising; Solve more complex equations

Geometry - Angles in parallel lines; Angles in polygons; Scale drawing; Enlargement

Statistics - Scatter graphs; Interpreting graphs and diagram; Data comparison

KS4 (start 2017)

Full 3 Year GCSE course –
Edexcel 1MA1

List of Topics Covered

The assessments will cover the following topics:

Number - Number, Indices and Standard Form; Fractions, Decimals and Percentages; Reciprocals, Indices and Surds

Algebra - Expressions, Sequences and Formulae; Equations and Inequalities; Rearranging Formulae; Quadratics

Ratio, proportion and rates of change – Ratio; Proportion; Rates of Change

Geometry and measures - Area and Perimeter of 2D shapes; Volume and Properties of 3D shapes; Multiplicative Reasoning; Plans, Elevations; Loci, Bearings and Construction; Similarity and Congruence

Probability – Simple, Tree diagrams, Venn diagrams, independent and dependent probability.

Statistics – Graphs; Real life Graphs; Averages and Range; Statistics and Sampling

List of Topics Covered

KS5 A – Level

No Coursework

Examination (100%)

Examining Board - AQA

2 year course

The A-Level is a two year linear course, where students' will sit three equally weighted papers in June of their second year. The papers cover the following content:

Paper 1 – Assesses content from Proof, Algebra and functions, Coordinate geometry, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Numerical methods

Paper 2 – Assesses any content from Paper 1 and content from: Vectors, Quantities and units in mechanics, Kinematics, Forces and Newton's laws, Moments

Paper 3 – Assesses any content from Paper 1 and in addition Statistical Sampling, Data Presentation and Interpretation, Probability, Statistical Distributions and Statistical

KS5 – GCSE resit

Students cover a condensed version of what they have previously covered in the previous key stage 4