



Harmonize Academy

Subject Overview

Mathematics



Mathematics is a core subject that develops essential skills for life, further study and employment. The Edexcel GCSE Mathematics course helps students to think logically, solve problems, and apply maths confidently in real-world situations.

Mathematics is one of the most important and versatile qualifications a student can achieve. Whether through GCSE or Level 2 Functional Skills, it provides the foundation for future study, enhances employability, and equips learners with skills that will benefit them for life.

How do we deliver Mathematics?

GCSE Mathematics (Edexcel) Course Content

Students study a broad range of topics, including:

- **Number** – fractions, decimals, percentages, ratios, powers and standard form.
- **Algebra** – solving equations, using graphs, sequences and functions.
- **Geometry and Measures** – angles, shapes, trigonometry, perimeter, area and volume.
- **Ratio, Proportion and Rates of Change** – applying proportional reasoning to real contexts.
- **Probability and Statistics** – interpreting data, charts and graphs, and calculating probability.

Assessment

GCSE Mathematics is assessed entirely by examination at the end of Year 11 through three equally weighted papers:

- **Paper 1 (Non-Calculator)**
- **Papers 2 and 3 (Calculator)**

Each exam is 1 hour 30 minutes, and the qualification is available at Foundation and Higher tier.

Alongside GCSE, we also offer the **Level 2 Functional Skills Mathematics course**. This is assessment-based and focuses on applying maths to practical, everyday problems, providing an alternative route for students who may benefit from a different style of learning and assessment.

Future pathways

A strong pass in GCSE Mathematics is essential for progression into most sixth forms, colleges, apprenticeships and careers. Students may go on to study:

- **A-level Mathematics**
- **Further Mathematics**
- **Core Maths**

Mathematics also supports a wide range of other subjects including sciences, computing, psychology, geography, business and economics.

Careers and Employment

Mathematics is highly valued by employers and universities. It opens doors to careers in:

- **Engineering and Construction** – civil, mechanical, electrical, architecture, surveying.
- **Finance and Business** – banking, accountancy, insurance, data analysis.
- **Science and Technology** – medicine, computing, research, data science.
- **Public Services** – armed forces, police, and civil service roles requiring strong analytical skills.