Year 9 Options
Information Guide

GCSE Mathematics

Faculty of Mathematics

GCSE Mathematics

Maths has a wide variety of practical and theoretical applications in areas as diverse as space travel, public health and predicting stock market prices. In addition, it is an essential qualification for many future career paths.

By studying GCSE Maths you will become better-equipped when it comes to problem-solving, critical thinking, analytical and interpretative skills. You'll also learn the importance of maths in society, employment and study. Our Maths GCSE course is ideal if you:

- Need to enhance your employability. GCSE Maths is essential for most career paths including nursing, teaching, accounting, IT and management.

- Would like to access an apprenticeship or pursue AS/A Levels.

Subject Specific Skills:
- Constructing and clearly presenting mathematical and logical arguments
- The ability to deal with highly abstract concepts
- Advanced numeracy skills
- Turning real-world problems into mathematical problems
- Being able to exactly state what a problem is, including assumptions made, if necessary breaking it down into sub-problems, and presenting the solution clearly
- Analysing data, finding patterns and extracting conclusions

Transferrable Skills:
- Communication and interpersonal skills
- Teamwork and leadership
- Presentation skills
- Investigative study skills
- Commitment and determination

Content

Your GCSE maths will be broken down as follows:

Numbers
You'll use fractions, decimals and percentages, and work with ratios and proportion to solve a variety of different number problems.

Algebra
In this unit, you will learn how to use formulae and algebra and in different ways, including problem-solving and working with graphs. Once you are comfortable with these skills, you will learn how to work with quadratic equations.

Geometry
Here, you will look at 2D and 3D shapes, including triangles, trapeziums, and circles. The unit includes using vectors to describe movement and directions and using rules and formulae to find angles in shapes.

Measures
You will look at how to work with speed and density in a variety of contexts and learn how these apply to real-life situations as well as different ways of measuring, including the use of scales to draw plans or to read maps.

Statistics
In this unit, you will learn how to interpret, analyse and compare different sets of data, and how to present your own data to share with others. You will look at how trends can be predicted and how to ensure that the interpretation of data is trustworthy.

Probability
This unit looks at using probability to describe the chance of events happening. You will learn how to use the language of probability to explain likelihood, and how to use diagrams, tables and techniques to explore the idea of chance in different situations.

Equipment:
- Pen
- Pencil
- Ruler
- Rubber
- Pencil Sharpener

- Protractor
- A pair of compasses
- A calculator (your teacher will advise you of the best one to buy for your tier of entry)

Maths
A lesson that counts

Assessment

Awarding Body: Edexcel

Course Aims:

The aims and objectives of the Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Mathematics are to enable students to:

● develop fluent knowledge, skills and understanding of mathematical methods and concepts

● acquire, select and apply mathematical techniques to solve problems

● reason mathematically, make deductions and inferences, and draw conclusions

● comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.

Course Assessment:

- 1 Non – Calculator Paper, $1\frac{1}{2}$ hour paper

- 2 Calculator Papers, $1\frac{1}{2}$ hour paper each

Progression Opportunities:

- Studying Mathematics at AS/A Level.

- A range of careers in fields such as accountancy, data analysis, financial management, financial trading, insurance, meteorology, nursing, quantity surveying, statistics, software development, architecture, and education.

- Government research suggests that individuals who have the best maths skills and achieve academic qualifications in this subject, generally go on to earn a higher wage.

Potential Careers from Mathematics:

- Cryptographer
- Economist
- Actuary
- Teacher
- Financial Planner
- Investment analyst
- Statistician

- Accountant
- Plumbing
- Engineering
- Medicine
- Nursing
- Archaeology

If you require any further information about this GCSE, please do not hesitate to contact the Faculty Director for Mathematics Dr Player at nplayer@huntcliffschool.co.uk who will be more than happy to answer any questions you may have.