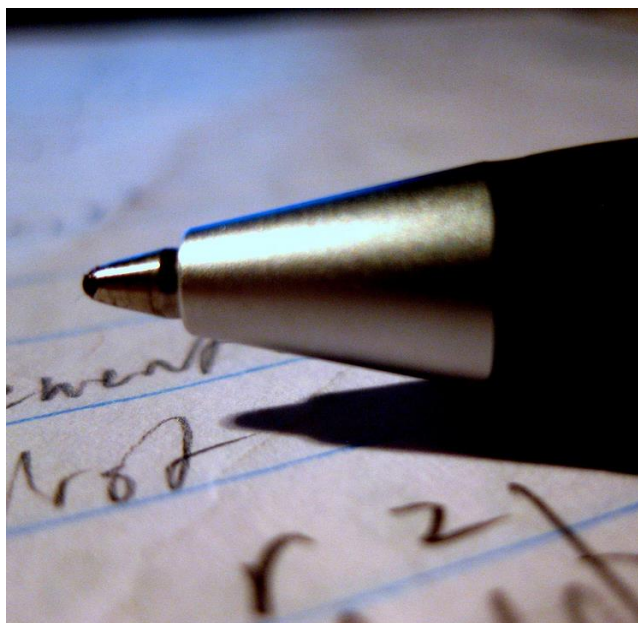# Mathematics

Your Mathematics A-Level

In the last few years, more and more students have chosen to study A-level Mathematics, both in our school and across the country. Mathematics has been the most popular A level choice nationally since 2014.

September 2017 saw the introduction of the new linear A level Mathematics course. The content includes Pure Mathematics, Statistics and Mechanics. Three overarching themes are inherent throughout the content:

(a) Mathematical argument, language and proof;

(b) Mathematical problem solving;

(c) Mathematical modelling.

Assessment will consist of three, equally weighted 2 hour papers at the end of the 2 year course.

Papers 1 and 2 will assess the Pure Mathematics content, with paper 3 assessing a combination of Mechanics and Statistics.

Your aims might be…

- [ ] To learn mathematics for enjoyment and challenge
- [ ] To develop your mathematical skills, creativity and communication
- [ ] To develop analytical thinking skills that will be useful in a wide range of work and study contexts
- [ ] To support your study of other subjects
- [ ] To enable you to study mathematics at university
- [ ] To improve your employability and earning potential
- [ ] To understand the world in deeper ways.

Your qualifications, habits and character

You have an enquiring mind and a belief that hard-work and practice is the route to success. You enjoy doing mathematics and you have a fluency and flair for calculation, abstract thinking and problem-solving. You may well find mathematical thinking comes naturally to you.

We promise to give you some problems that challenge you. Since this may be the first time you've struggled with mathematics, you will need to be determined, resourceful and emotionally resilient.

You will have at least a high grade 6 in Mathematics at GCSE Higher Tier. You appreciate that you will be far more likely to complete the course successfully if you start with at least a grade 7.

EPCHS6th

What you might study

A level mathematics builds from GCSE level mathematics and introduces calculus and its applications. It emphasises how mathematical ideas are interconnected and how mathematics can be applied to model situations mathematically using algebra and other representations, to help make sense of data, to understand the physical world and to solve problems in a variety of contexts, including social sciences and business. It prepares students for further study and employment in a wide range of disciplines involving the use of mathematics. Content covered in the new A Level is detailed below.

Pure Mathematics -

> Proof
> Algebra and functions
> Coordinate geometry
> Sequences and series
> Trigonometry
> Exponentials and logarithms
> Differentiation
> Integration
> Numerical methods
> Vectors

Statistics -

> Statistical sampling
> Data presentation and interpretation
> Probability
> Statistical distributions
> Statistical hypothesis testing

Mechanics -

> Quantities and units in mechanics
> Kinematics
> Forces and Newton's laws
> Moments

For more information

Students interested in studying A Level Mathematics should contact the Head of Department or subject staff.

Head of Department

Mrs P Barker

Subject Staff

Mrs N Vickery

Mrs H Little

Specification & Exam Board

Edexcel
Mathematics (*9MA0*)
http://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html