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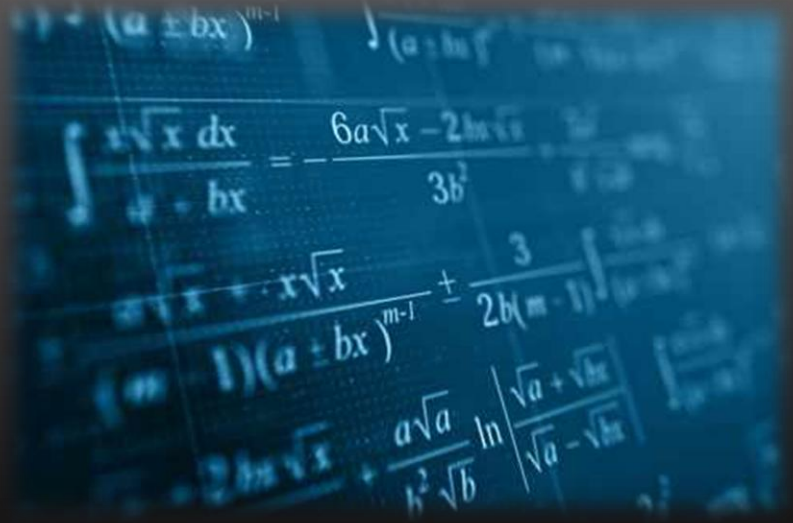
Mathematics

GCSE



Head of Department : Mrs Williamson

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Course Aims

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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.

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Course Outline

The assessments will cover the following content headings:

1 Number

2 Algebra

3 Ratio, proportion and rates of change

4 Geometry and measures

5 Probability

6 Statistics

- The qualification consists of three equally-weighted written examination papers;
- Paper 1 is a non-calculator assessment and a calculator is allowed for Paper 2 and Paper 3;
- Each paper is 1 hour and 30 minutes long and has 80 marks;
- Some questions will be set in both mathematical and non-mathematical contexts;
- The qualification will be graded and certificated on a nine-grade scale from 9 to 1;
- Foundation tier: grades 1 to 5; Higher tier: grades 4 to 9.

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Links to other subjects

Mathematics links with biology, physics, chemistry, computer science, economics, business studies, geography, history, psychology, art and design technology.

During the GCSE (9-1) Mathematics course, we study how mathematics is applied in real life situations to practical contexts.

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Holcombe Habits

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- Applying past knowledge is developed through application and practice.
- Persistence is developed through extended reasoning and problem solving contexts.
- Questioning and posing problems are developed through cognitive processes and thinker's key activities e.g. What if?










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Skills needed to succeed in Mathematics

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- critical thinking; problem solving; analytical thinking; quantitative reasoning; ability to manipulate ideas; construct logical arguments; communication; time management; teamwork; independence.

Transferable skills

Cognitive skills:

- non-routine problem solving; systems thinking; critical thinking; ICT literacy.

Interpersonal skills:

- communication; teamwork and collaborative problem solving.

Intrapersonal skills:

- adaptability; motivation and independence.

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Career Pathways

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Students can progress to:

- a range of different Advanced Level subjects, academic or vocational higher education qualifications; employment in a relevant sector; further training.
- many students go on to study honours degrees in physics, engineering, actuarial science, economics and mathematics.
- mathematics is recommended for computer science, accounting, chemistry, biology and life sciences, medicine, nursing, dentistry, business studies, management studies, finance, architecture, geology, psychology, surveying, philosophy and some advanced apprenticeships.

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Top 10 Universities For Mathematics

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University of Oxford
University of Cambridge
University of St Andrews
Durham University
Imperial College London
University of Warwick
University of Edinburgh
UCL (University College London)
Lancaster University
University of Bath

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