# Computer Science

## Why study Computer Science?

Computer Science is fundamentally about problem solving — a skill that underpins success not only in technology but in life more broadly. Studying this subject equips pupils with logical thinking, creativity, and resilience, qualities that are valued across all industries. With a national and global shortage of computer science expertise, graduates in this field remain highly sought-after, often commanding some of the most competitive salaries of any profession. As technology becomes ever more deeply embedded in our daily lives, opportunities in this area continue to expand. GCSE Computer Science therefore offers pupils both a pathway to future careers and a deeper understanding of the digital world in which they live.

A key element is programming: the ability to instruct a machine to perform tasks rather than simply consuming pre-made software. Pupils will develop both the theoretical knowledge and the practical skills to apply computing principles creatively and effectively. The qualification is assessed through two written examinations, each worth 50% of the GCSE.

## GCSE Structure

### Programming

From the outset, pupils will begin learning Python, a versatile and widely used programming language. They will build a solid foundation in core programming constructs and apply them to solve problems in preparation for assessment at the end of Year 11. Teaching is carefully paced to suit individual needs: we assume no prior experience, providing tailored support for beginners as well as extension opportunities for those who already have programming knowledge.

#### Paper 1 – Computational Thinking and Programming Skills (50%)

A written examination based on practical scenarios, covering: Fundamentals of algorithms, Programming, and Fundamentals of data representation. Pupils will encounter a variety of question types, from multiple-choice to extended response questions.

#### Paper 2 – Computing Concepts (50%)

A traditional written examination testing knowledge of:

- Computer systems
- Fundamentals of computer networks
- Cyber security
- Relational databases and SQL
- Networking and the internet Ethical and legal & environmental impacts

*“Everybody in this country should learn to program a computer, because it teaches you how to think.” — Steve Jobs*

## At a Glance

**Exam Board**
AQA

**Assessment Type**
The course comprises two exams.

- 50% Exam 1 Computational thinking and Programming
- 50% Exam 2 Computing Concepts

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