

Subject: Computer Science

Computer Science Lead: Steve Lea

Exam Board: AQA

Qualification type: GCSE

Intent

Principles of the Computer Science Curriculum

The United Curriculum for Computer Science is built upon the core United Curriculum principles available [here](#)

GCSE Computer Science gives students a strong understanding of how computer systems work and how they are used to solve problems. The course develops logical thinking, problem-solving and programming skills, while also encouraging students to consider the impact of computing on individuals, organisations and society. It provides an excellent foundation for further study in computing and related technical fields.

Implementation

Students complete **two written examinations** at the end of the course. Programming skills are assessed within the written papers. There is **no coursework**.

Paper 1: Computer Systems

- **Duration:** 1 hour 30 minutes
- **Weighting:** 50% of the GCSE

Topics Covered:

- Systems architecture
- Memory and storage
- Computer networks, connections and protocols
- Network security
- Systems software
- Ethical, legal, cultural and environmental impacts of digital technology

This paper focuses on the **theory of how computer systems work**, including hardware, software and networks, as well as the wider implications of computer science in society.

Paper 2: Computational Thinking, Algorithms and Programming

- **Duration:** 1 hour 30 minutes
- **Weighting:** 50% of the GCSE

Topics Covered:

- Algorithms
- Programming fundamentals
- Producing robust programs
- Boolean logic
- Programming languages and integrated development environments
- Data representation

This paper focuses on **problem-solving and programming**. Students are required to design, trace and refine algorithms, write and interpret programs, and demonstrate computational thinking skills.

Impact

The careful sequencing of the curriculum – and how concepts are gradually built over time – is the progression model. If pupils keep up with the curriculum, they are making progress. Formative assessment is prioritised and is focused on whether pupils are keeping up with the curriculum.

In general, this is done through:

- Questioning in lessons. Teachers check understanding so they can fill gaps and address misconceptions as required.
- Pupil conferencing with books. Subject leads and SLT talk to pupils about what they have learnt – both substantive and disciplinary knowledge – and how this connects to the vertical concepts that they have been developing in previous years and other subjects.
- Post-learning quizzes at the end of each unit. These give teachers an understanding of the knowledge that pupils can recall at the end of the unit and can be used to identify any remaining gaps to be filled.
- Pre-learning quizzes at the start of each unit. These assess pupils' understanding of the prior knowledge that is required to access the new

content in the unit. These are used to identify gaps to be filled prior to teaching the new unit.

