

Roundwood Park School

Computer Science

Knowledge Outline for KS3 Computer Science

At KS3 we aim to:

- Equip pupils to be able to use computational thinking and creativity to understand the digital world, and to use information technology to create programs, systems and a range of content.
- Teach the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming and developing an understanding of the role of software development.
- Incorporate individual and collaborative activities that empower students to build on this knowledge and understanding.
- Ensure that pupils become digitally literate and responsible; able to use, and express themselves and develop their ideas through information and communication technology, at a level suitable for the future workplace and as active participants in a digital world.

Our curriculum allows students to question, explore, apply and gain knowledge of the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.

Throughout the curriculum students will gain an understanding of how to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

Students will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems and they will become responsible, competent, confident and creative users of information and communication technology.

Rationale

The plan is based on:

- 3 recurring themes which are Computers in Society, Data and Computational Thinking across KS3.
- development of skills in preparation for the AQA GCSE at KS4
- using computer science to promote good practice in a digital world.