



COMPUTING

Why is Computing Important?

Computers are an integral part of everyday life. For most of us technology is now essential in both the workplace and at home. Teaching our children to be creative with technology supports the skills needed for lifelong learning and prepares them for a world that is changing at a rapid pace.

At the core of the computing curriculum is computer science, whereby pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.

Computing also ensures that pupils become digitally literate – able to use technology to 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 Aims

Throughout the Outwood Computing Curriculum there are many opportunities to use IT in meaningful contexts derived from other subject areas.

The computing curriculum prepares the pupils to use computational thinking and creativity to understand and change the world. Computing covers three related distinct but related aspects.

Information Technology

Creating digital content across the curriculum has many practical possibilities. Pupils across the Outwood Academies will have opportunities to improve their word processing skills, design games, work with video (including stop animations), create graphics, write computer programs, create digital books, work with digital photographs, use augmented reality, work with data, build web pages, websites and apps. Pupils will be able to evaluate and apply information technology, including new or unfamiliar technologies, to solve problems analytically.

Computer Science

Computer science aims to cover two aspects. There is a focus on computer science itself (the ideas and principles that underpin how digital technology works) and this sits alongside the practical experience of programming. Pupils at Outwood Academies will understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Pupils will analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

Digital Literacy

As young people are growing up in a digital world it is vital that they learn the benefits that technology has to offer and develop a critical awareness of their own and other's online behaviour. They must develop effective strategies for keeping safe and making a positive contribution online.

At Outwood Academies, we aim to support young people to be safe, healthy and succeed online. To enhance and broaden the provision of online education, so that it is empowering, builds resilience and effects positive cultural change. The objectives promote the development of safe and appropriate long-term behaviours. Pupils will be responsible, competent, confident and creative users of information and communication technology.

There are eight areas covered by the computing curriculum. These are:

- Self Image and Identity
- Online Relationships
- Online Reputation
- Online Bullying
- Managing Information
- Health, Wellbeing and Lifestyle
- Privacy and Security
- Copyright and Ownership

Careers

Careers in technology continue to grow and the many resources that we use to help in work will be technology driven. Our school children will enter a competitive employment market, one that will be dominated by exciting levels of technological innovation and change. One that will require them to focus on creative solutions to everyday issues. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.

Careers that the study of computing supports include:

- Mobile Application Developer
- Software Engineer
- Video Game Designer
- Game Developer
- IT Security
- Web Developer
- Technology Manager
- Data Analyst
- Forensic Computer Analyst
- IT Consultant
- Web Designer

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Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1		First footsteps in a digital world -Information Technology -Online safety	How do computers work? -Information Technology -Computer Science	Reading power -Information Technology	Who wants to play? -Information Technology -Computer Science	
Autumn 2					Junior website developer/Digital apprentice -Information Technology -Online safety	Growing up in a digital world -Information Technology -Online safety
Spring 1	Magical Storytelling -Information Technology			My very own game -Information Technology -Computer Science		
Spring 2			Stone Age Website - Information Technology			
Summer 1	Wanted dragon -Information Technology -Online safety	What is a computer? -Information Technology -Computer Science			How do computers impact our lives -Information Technology -Online safety	It's My Business -Information Technology Programming: getting better -Computer Science
Summer 2	Dance Party - Computer Science	Programming: getting started -Computer Science	My hero -Information Technology -Online safety	Enter a digital world -Information Technology -Online safety	How do computers impact our lives -Information Technology -Online safety	Computer Aided Design - Computer Science

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