

Computing



"The computer was born to solve problems that did not exist before." Bill Gates

At The Ferncumbe C of E Primary School, we understand that technology is everywhere and will play a pivotal role in pupils' lives. Therefore, it is our role to deliver a high-quality computing education that equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which 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, 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.

Aims

- To understand that there is always a choice when using technology and how to make safe choices, seeking help where necessary.
- To understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Are able to analyse problems in computational terms and have repeated practical experience of writing computer programs to solve such problems.
- To evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Pupils are responsible, competent, confident and creative users of information and communication technology.

Long Term Plan

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Rather than a scheme with set lessons, the early years resources are designed to integrate into the day-to-day routine and set-up of an early years setting with opportunities for using technology as part of the Early Years curriculum to support children in working towards early learning goals.					
Year 1	Technology Around Us	Creating Media - Digital Painting	Creating Media - Digital Writing	Data Handling - Grouping Data	Programming - Moving a Robot	Programming - An introduction to Animation
Year 2	Computer Systems and Networks	Creating Media - Digital Photography	Programming - Robot Algorithms	Data and Information - Pictograms	Creating Media - Digital Music	Programming - Creating Quizzes

Year 3	Computer Systems and Networks - Connecting Computers	Creating Media - Stop Frame Animation	Programming - Sequencing Sounds	Data and Information - Branching Databases	Creating Media - Desktop Publishing	Programming - Events and Actions
Year 4	Computer Systems and Networks - The Internet	Creating Media - Audio Production	Programming - Repetition in Shapes	Data and Information - Data Logging	Creating Media - Photo Editing	Programming - Repetition in Games
Year 5	Computer Systems and Networks - Systems and Searching	Creating Media - Video Production	Programming - A Selection in Physical Computing	Creating Media - Vector Graphics	Data and Information - Flat File Databases	Programming - Selection in Quizzes
Year 6	Computer Systems and Networks - Communication and Collaboration	Creating Media - Web Page Creation	Programming - Variables in Games	Data and Information - Spreadsheets	Creating Media - 3D Modelling	Programming - Sensing Movement

E-safety is taught through units rather than an explicit unit.