

Computing Curriculum



**Highfield
Church of England
Primary School**

Computing Curriculum



*"Worthy are you, our Lord and God, to receive glory and honour and power, for you created all things, and by your will they existed and were created."
(Revelation 4:11)*

Intent

A high-quality computing education equips pupils to use 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. At Highfield, we will ensure children become digitally literate so that they are able to express themselves and develop their ideas through information and computer technology– at a level suitable for the future workplace and as active participants in a digital world.

We intend to build a computing curriculum that prepares pupils to live safely in an increasingly digital British society where pupils can understand the importance of staying safe online. We believe children need to understand how the digital world around them works, and to develop their understanding of algorithms, thinking sequentially and problem solving. We believe children need to be equipped with the means to keep themselves safe online and evaluate risks. We also believe in the importance of developing them to be responsible digital citizens.

Purpose of Study

Computing or Information and communication technology (ICT) prepares pupils to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technology. It is experienced by pupils in two distinct forms, direct teaching of skills, which is then supported by integrated computing across the curriculum.

Aims

Through our planned programme of work we intend that:

- Pupils will be taught to use computing tools to find, explore, analyse, exchange and present information responsibly, creatively and with discrimination.

- They will learn how to employ computing to enable rapid access to ideas and experiences from a wide range of people, communities and cultures.
- Pupils' independent learning will be encouraged, and they will be taught to make informed judgments about when and where to use computing to best effect, and to consider its implications for home and work both now and in the future.

Curriculum

Early Years Foundation Stage – The technology strand was removed from the understanding the world area of learning, however, computing and technology are still vitally important in EYFS. Our computing learning in our EYFS ensures that pupils enter Year 1 with a strong foundation, builds problem-solving abilities, encourages resilience and supports other areas of learning. By integrating computing into EYFS, pupils also begin to build their digital literacy and their understanding of e-safety.

Key Stage 1 – Pupils should be taught to understand algorithms, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. They should also learn to create and debug simple programs, using logical reasoning to predict the behavior of these programs. Additionally, students should use technology purposefully to create, organize, store, manipulate, and retrieve digital content, while recognizing common uses of information technology beyond school. Importantly, they must use technology safely and respectfully, keeping personal information private and knowing where to seek help and support when they have concerns about online content or contact.

Key Stage 2 – Pupils should be taught to design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems, and to solve problems by decomposing them into smaller parts. They should use sequence, selection, and repetition in programs, and work with variables and various forms of input and output. Logical reasoning should be applied to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Additionally, students should understand computer networks, including the internet, and how they can provide multiple services, such as the World Wide Web, along with the opportunities they offer for communication and collaboration. They should use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Pupils should also select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information. Importantly, they must use technology safely, respectfully, and responsibly, recognize acceptable and unacceptable behaviour, and identify a range of ways to report concerns about content and contact.

Planning

Long term planning shows units to be covered, term and time allocation.

Medium term planning, annotated with further information (including N.C. coverage and evaluation) as appropriate. All key stages use more detailed medium term plans/assessment sheets and key questions for each unit which include subject-specific vocabulary. The Vocabulary Curriculum Driver serves as a pivotal framework for enhancing pupils' language proficiency and conceptual understanding across the subject. At its core, this approach prioritises the identification and integration of essential subject-specific vocabulary, ensuring that pupils develop a robust academic vocabulary essential for comprehension and communication within each concept. Teachers should be following the appropriate units and planning the work to achieve the learning objectives, with reference to the activities and health and safety issues.

Short-term plans provide a Big Question for the unit and then smaller enquiry questions for each lesson. These questions ensure our pupils foster a deeper engagement with learning and instils a lifelong love for acquiring knowledge as it cultivates critical thinking and problemsolving skills, as pupils learn to gather evidence, analyse information, and draw well-informed conclusions. Plans will indicate differentiated groupings, extension and support activities as appropriate. Appropriate strategies are adopted to ensure that the learning needs of all children are met through their creative development.

Teaching Computing

Opportunities for computing arise in nearly all subjects of the curriculum. It should be used as a tool within the classroom as much as possible. The use of computing in teaching is twofold; integrating into both whole class teaching and children's independent work. A distinction should be made between teaching computing skills, which should be planned into the school week as a discrete subject, and the use of computing as a cross-curricular tool.

Assessment, Recording and Reporting

At the beginning of each unit, children complete a pre-assessment task. This provides the teachers with a starting point of what they need to teach, refresh or only lightly touch upon.

Teachers consistently use formative assessments to gauge how well pupils are learning and retaining information. Each lesson across the curriculum starts with a review of the previous lesson's content called a 'Prove it'; these activities, further show the knowledge pupils have gained. This method of low-stakes testing helps teachers decide when to revisit and reinforce knowledge to ensure it is thoroughly embedded.

At the end of each unit, children complete an assessment task. This task combines pupil selfassessment with teacher assessment to indicate how well pupils have progressed throughout the unit. Teachers use this to record who has achieved below and who has achieved above the expected standard. Teachers then use the assessment to help close any gaps.