Securing an Excellent Computing Curriculum for the Children of Botley C of E Primary School

Intent of the Computing Curriculum

In line with the 2014 National Curriculum for Computing, our aim is to provide a high-quality computing education which equips children to use computational thinking and creativity to understand and impact upon the world. The curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers.

By the time they leave Botley C of E Primary, children will have gained key knowledge and skills in the three main areas of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully). They will also understand how to access and use computer technologies safely and become responsible digital citizens of the future. The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond.

Implementation of the Computing Curriculum

At Botley C of E Primary, computing is taught using a skills progression document. In the Foundation Stage it is taught within appropriate aspects of the Early Years Curriculum and in Years 1-6 subject specific skills are taught, often with the context linking to other curriculum subjects. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their computing topics. We have a computing suite, laptops using different operating systems, chrome books and sets of iPads and tablets to ensure that all year groups have the opportunity to use a range of devices and programs for many purposes across the wider curriculum, as well as in subject specific computing lessons. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught.

The implementation of the curriculum also ensures a balanced coverage of computer science, information technology and digital literacy. The children will have experiences of all three strands in each year group, but the subject knowledge imparted becomes increasingly specific and in depth, with more complex skills being taught, thus ensuring that learning is built upon. For example, children in Key Stage 1 learn what algorithms are, which leads them to the design stage of programming in Key Stage 2, where they design, write and debug programs, explaining the thinking behind their algorithms.

Staff model explicitly the subject-specific vocabulary, understanding and skills relevant to the learning and enable children to develop and retain new knowledge and understanding. Assessment is ongoing throughout each unit to inform teachers of progress and to support them with responsive teaching approaches that ensure that they appropriately meet the needs of all.

We are developing the use of Seesaw as a digital learning platform and where appropriate use this within the school. The quality of children's learning will be evident on Seesaw, as pupils share and evaluate their own work, as well as that of their peers. Evidence such as this is used to feed into teachers' future planning and due to the integrated approach to the curriculum enables them to revisit misconceptions and knowledge gaps in computing when teaching other curriculum areas. This supports varied paces of learning and ensures all pupils make good progress.

Impact of the Computing Curriculum

Our approach to the curriculum results in an enjoyable, engaging, and high-quality computing education. Our Computing curriculum is of an excellent standard, well thought out and is planned to demonstrate progression. A high proportion of the children will be working at Age Related Expectations or beyond at key points and they are effectively prepared for the next stage of their educational journey within the subject of Computing.

We measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes
- Children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation;
- Children can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;
- Children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems;
- Children are responsible, safe, competent, confident and creative users of information and communication technology.

Much of the subject-specific knowledge developed in our computing lessons equips pupils with experiences which will benefit them in secondary school, further education and future workplaces. From research methods, use of presentation and creative tools and critical thinking, computing at Botley C of E Primary gives children the building blocks that enable them to pursue a wide range of interests and vocations in the next stage of their lives.