INTENT, IMPLEMENTATION AND IMPACT: COMPUTING

COMPUTING PROGRESSION THREADS

- Information Technology
- Computer Science
- Digital Technology

"Computing is not about computers anymore. It is about living" - N. Negroponte

INTENT

Through our computing curriculum at Prince Albert School, we aim to give our pupils the life-skills that will enable them to embrace and utilise innovative technology in a socially responsible and safe way. We want our pupils to be able to operate in the 21st century workplace and we want them to know the career opportunities that will be open to them if they study computing. It is important to us that the children understand how to use ever-changing technology to express themselves, as tools for learning and as a means to drive their generation forward into the future.

Whilst ensuring they understand the advantages and disadvantages associated with online experiences, we want children to develop as respectful, responsible and confident users of technology, aware of measures that can be taken to keep themselves and others safe online. Not only do we want them to be digitally literate and competent end-users of technology but through our computing lessons we want them to develop creativity, resilience, problem-solving and critical thinking skills.

We provide a computing curriculum that is designed to balance acquiring a broad and deep knowledge alongside opportunities to apply skills in various digital contexts. Beyond teaching computing discreetly, we will give pupils the opportunity to apply and develop what they have learnt across wider learning in the curriculum.

IMPLEMENTATION

Our computing curriculum is developed from 'Teach Computing' framework and covers all aspects of the National Curriculum. Teach Computing was chosen as it has been created by subject experts and based on the latest pedagogical research. It provides a framework where computing content (concepts, knowledge, skills and objectives) has been planned to ensure progression. Computing is taught weekly across school.

We begin to develop our pupil's understanding of technology in the Early Years Foundation Stage (EYFS). This is centred around activities that focus on building children's listening skills, curiosity, creativity and problem solving.

Technology in the Early Years can include:

Taking photographs

Using QR codes

Mark making using technology

Searching for information on the internet

Exploring mechanical toys

Using Beebots, Spheros and VR headsets

Allowing children the opportunity to explore and learn about technology means that not only will they develop a familiarity with equipment and vocabulary, but they will be able to make a confident start to the KS1 curriculum.

In KS1 and 2, computing is taught across three main strands: digital literacy, computer science and information technology. As part of information technology, pupils learn to use and express themselves and develop their ideas through Information and Communication Technology (ICT) for example writing and presenting as well as exploring art and design using multimedia. Within digital literacy, children develop practical skills in the safe use of ICT and the ability to apply these skills to solving relevant, worthwhile problems for example understanding safe use of internet, networks and email. In computer science we teach pupils to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation. Pupils learn to analyse problems in computational terms and have repeated practical experience of writing computer programs to solve such problems.

Online safety lessons form an important part of the curriculum. Elements of online safety are also included in PSHE lessons and assemblies. Online safety procedures are communicated with all staff and parents. All staff complete online safety training at the start of each year. Parents are informed when issues relating to online safety arise and further information/support is provided as required.

Regular training is provided to staff by the subject leader and teachers receive subject knowledge documents and guidance of where to access further knowledge and sources. All staff also have access to subject specific training on the National College website. The subject leader attends external training to ensure up-to-date knowledge of advancements in computing.

IMPACT

Our high-quality computing education develops a range of programming and technological skills that are transferable to other curriculum areas, including Science, Mathematics, Design and Technology and History. As pupils progress through KS1 and KS2 children learn to:

Apply their digital skills

Communicate, collaborate and analyse

Showing imagination and creativity in their use of ICT in various aspects of their learning and life beyond school.

E-safety and the risks involved when using the internet

Having a secure understanding of the positive applications and specific risks associated with a broad range of digital technology.

The impact of the computing curriculum offered at Birchfield School is assessed continuously against the age-related expectations in computing for each year group. In doing so, we are ensuring that the necessary support is provided for all children to have a good understanding of the primary computing curriculum whilst allowing us to effectively scaffold/adapt learning for pupils.

The computing curriculum is monitored through a variety of monitoring activities such as discussions with pupils, learning walks and monitoring of pupil's work.

The implementation of this curriculum ensures that when pupils leave Birchfield, they are competent and safe users of technology with an understanding of how technology works. They have developed skills to express themselves and be creative in using digital media and be equipped to apply their skills in computing to different challenges going forward to secondary school and beyond.