

# Computing

## Intent

All pupils at All Saint's Denstone have the right to rich, deep learning experiences that balance all the aspects of computing. With technology playing such a significant role in society today, we believe 'Computational thinking' is a skill children must be taught if they are to be able to participate effectively and safely in this digital world. 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. At All Saint's Academy, pupils are introduced to a wide range of technology, including laptops, iPads, Bee-Bots and interactive whiteboards etc; allowing them to continually practise and improve the skills they learn. This ensures they 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 them and as active participants in a digital world.

We teach a curriculum that enables children to become effective users of technology who can:

- Understand and apply the essential principles and concepts of Computer Science, including logic, algorithms and data representation.
- Analyse problems in computational term, and have repeated practical experience of writing computer programs in order to solve such problems.
- Evaluate and apply information technology analytically to solve problems.
- Communicate ideas well by utilising appliances and devices throughout all areas of the curriculum.

## Implementation

At All Saint's we want the children to grow in confidence and continue to build on previously learnt skills as they progress through each year group.

Teachers plan a sequence of structured lessons using our Purple Mash scheme of work, which is designed to meet the National Curriculum objectives for each Key Stage.

In the Early Years, children are regularly exposed to technology, often through play and continuous provision. The children have regular access to two desktops within the classroom. iPads are used as and when appropriate for individuals or groups. They also have access to resources such as Bee-Bots and cameras etc.

In Key Stage 1, the children will learn to understand what algorithms are, how they are implemented as programs and that programs execute by following instructions. They will be taught to create and debug simple programs and use logical reasoning to predict the behaviour of simple programs. They will be shown how to use a range of technology purposefully to create, organise, store, manipulate and retrieve digital content as well as recognise common uses of information technology beyond school. They will be taught to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

In Key Stage 2, the children will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller

parts. They will use sequence, selection, and repetition in programs, use logical reasoning to explain how some simple algorithms work and correct errors in algorithms and programs. Children will be taught to understand computer networks, including the internet, and the opportunities they offer for communication and collaboration. They will use search technologies effectively, learn to appreciate how results are selected and ranked, and be discerning in evaluating digital content. Children will be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to create a range of programs, systems and content that accomplish given goals. They will use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

There are many opportunities for these skills to be taught through exciting units from our Purple Mash scheme of work. Additional opportunities such as assemblies and themed days allow for wider discussions on aspects such as online safety.

### **Impact**

Through implementing this creative, engaging and sequenced curriculum, the children at All Saint's will be digitally literate and able to join the rest of the world on its digital platform. Children will have the skills to use technology effectively in everyday life, but most importantly; they will know how to use it safely. As educators teaching computing, one of our main priorities is ensuring that our children understand how to remain safe online and understanding situations and activities that may not be safe for them.

Computing has rapidly become a fundamental life skill to have and at All Saint's, we are passionate in ensuring that our children become confident in their abilities to aid them later in life.