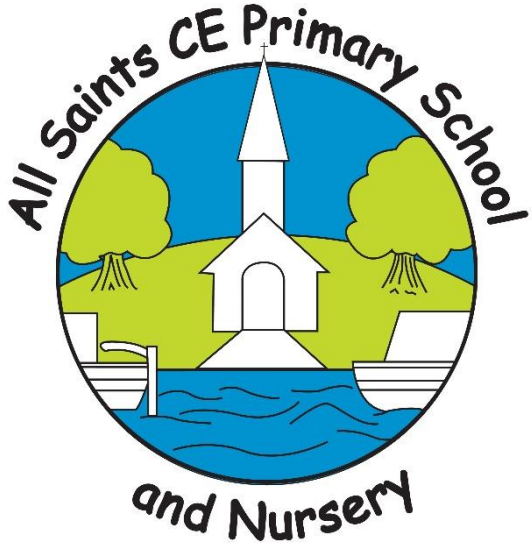
Computing Policy



'Learning for life,

building a firm foundation'

Reviewed: September 2023

Headteacher: Lisa Harrison

At All Saints, we believe that our vision, ***Learning for life, building a firm foundation,*** is really important in terms of Computing as we live in an increasingly technological society. For our children to have a firm foundation it is essential that they have a high level of Digital Literacy, Information Technology awareness and a solid start in Computer Science. A good foundation in these aspects unlocks a great deal of potential for our children in both learning and their future employment. These fundamental skills allow them to not only access a world of information and technology but also keep themselves and other safe.

In the case of this policy, that means supporting our children to develop a good level of understanding and respect for computing and its associated devices.

Curriculum Intent

All pupils at All Saints have the right to have rich, deep learning experiences that incorporate all aspects of computing. With technology playing such a significant role in society today, we believe that 'Computational Thinking' is a skill that children must be taught at a level suitable for the future workplace, so that they are to be able to participate effectively and safely in this digital world. Pupils will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- be responsible, competent, confident and creative users of information and communication technology.

Our Computing curriculum is centred on children knowing how to access technology around them, but, fundamentally, how to keep safe and be respectful at all times. This will start with our nursery and EYFS children and will continue to be developed throughout their time at All Saints.

Curriculum Implementation

Our Computing curriculum is centred on children knowing how to access technology around them, but fundamentally, how to keep safe at all times, both online and off-line. Children have the right to be both physically and mentally healthy.

Implementation of our Computing curriculum allows children to build up a broad and balanced knowledge base through experiencing computing in two phases. First, is through the teaching of discrete computing skills where children learn how to investigate and program devices, use technology to communicate information in the form of words and graphics, use the Internet safely and effectively, handle data, store, and sort and retrieve information. Secondly, the children are provided with opportunities to use computing in other subject areas. They are encouraged to think about how computing can support their learning across the curriculum by using and applying the skills that they have learnt.

Our main curriculum focus is through the Kapow computing scheme which provides a well structured and resources curriculum. A variety of resources are used, including apps and software, for example, Microsoft programs, Bee Bots, MicroBits, MicroBit:Codeit and Purple Mash. We ensure that children develop depth in their knowledge and skills throughout each computing unit. We have a variety of hardware resources to support learning, both in computing lessons and across the curriculum. Within our school, there is an interactive whiteboard in each classroom and wireless internet connection across the entire school. Curriculum overviews are provided for teachers; planned units are carefully sequenced and provide exciting, realistic, engaging and creative learning experiences which promote life skills.

Evidence of learning is stored electronically and as part of our classroom computing books.

Curriculum Impact

We aim to ensure that all All Saints pupils:

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

Teaching and learning

Key Stage 1

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple program
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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.

Key Stage 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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

- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Resources

- A class set of Chromebooks/Laptops.
- A class set of MicroBits.
- Extra MicroBits for deployment in other subjects (Science Thermometer).
- Access to Kapow Computing resources.
- Purple Mash for home learning and home work.

Computing and assessment

Teachers have a whole class computing book in which they will keep final products and examples of children's work to demonstrate a good piece of work from each lesson. These jotters are collected in half-termly for monitoring purposes and subject leader checks.

Sonar is used as a tool to track children's progress against the goals of the national curriculum. These formative assessments help to build an overall picture of the children's computing skills.

Compluting and equal opportunities

- We aim to give every pupil the opportunity to enjoy a variety of Computing activities.
- Staff will create an environment that challenges stereotype and supports the appreciation of other cultures.
- Diversity and difference are celebrated and respected.
- All pupils will have an equal opportunity to reach their full potential across the computing curriculum regardless of their race, gender, cultural background, or special needs.
- We enable pupils to have access to the full range of activities involved in learning computing. Where children are to participate in activities outside the classroom, e.g., workshops at the local secondary schools, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

Computing and inclusion

We recognise that in all classes, children have a wide range of computing ability, and so we seek to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways:

- Setting tasks which are open-ended and can have a variety of responses.
- Setting tasks of increasing difficulty.
- Grouping children in mixed ability groups.
- Providing resources of different complexity, depending on the ability of the child.
- Using classroom assistants to support the work of individuals or groups of children.