

# Sutton Veny CofE Primary School

## Computing Policy



### The National Curriculum

A high-quality computing education equips pupils to use computational thinking and 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. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate, able to use, and express themselves and develop their ideas through information and communication technology, at a level suitable for the future workplace and as active participants in a digital world.

The aims of the 2014 National Curriculum are for our pupils to:

- 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
- are responsible, competent, confident and creative users of information and communication technology.

### Our Vision for Computing

To provide all the children with the knowledge and skills to be motivated and inspired by technology, in preparation for a rapidly changing digital future, understanding how imperative it is as an aid to learning and the real world beyond school, and developing the confidence and understanding needed to do so safely.

### Aims

As a school, we aim to provide quality teaching by utilising the power of technology as an instrument for motivating children and for raising standards in learning across the whole curriculum. We aim to provide a safe environment in which to encourage creativity and enthusiasm in developing computational thinking.

### Objectives

To achieve these aims our objectives are:

- to foster a passion and enjoyment of computing
- to provide opportunities for the children to use technology as a tool for learning and discovery in all areas
- to provide a progressive curriculum that ensures children build on their prior knowledge in computing
- to build a confidence and understanding of the key computing skills so that they can be applied laterally across software and hardware
- to select and use appropriate applications with confidence and a sense of achievement
- to understand the capabilities and limitations of technology and the implications and consequences of its use
- to provide up-to-date, reliable technology for the children
- to ensure that the children know how to use all forms of technology safely

## **Computing Curriculum at FS2 and KS1**

The KS1 National Curriculum sets out the programmes of study for computing and maps the progression of the computing skills, knowledge and understanding that the children will acquire by the end of Year Two. Despite computing not being explicitly mentioned within the Early Years Foundation Stage (EYFS) statutory framework it is important to help the children to understand how technology is used both in school and in their wider lives. There are many opportunities for young children to use technology to solve problems and produce creative outcomes.

At this stage of their education the children are taught to:

- develop mouse control, using either a mouse or a mouse mat, when using a laptop
- navigate basic tools for drawing and adding text, with lower case keys where necessary
- using the shift key to create a capital letter
- take a photograph
- use a variety of age-appropriate software and hardware (see Core Software document)
- open and close familiar software
- print work
- input instructions into screen or floor robots

By the end of KS1 the children need to secure the key knowledge, understanding and skills to:

- turn on and turn off the computers correctly, entering relevant passwords where necessary
- save and retrieve work from the server
- create, apply and amend simple algorithms
- access digital content on a variety of devices, including websites

## **Computing Curriculum at KS2**

Throughout Key Stage Two, the children's computational understanding builds on the solid foundations developed in the EYFS and KS1. All the children will access technology at least once a week, involving a variety of devices and software. This way they can practise the procedures involved in the key skills and form a good understanding of the school digital storage systems. As the children become independent learners they will experience different media formats and discover how to combine these effectively. They will also build up a secure understanding of internet and computing safety, recognising how to be a responsible user of technology.

At this stage of their education the children are taught to:

- apply their knowledge and skills of a variety of software to saving, editing and retrieving work
- present information in a variety of ways such as graphs, newspapers, e-books, podcasts
- combine different media such as videos, sound, images and text
- use a wide variety of age-appropriate software and hardware (see Core Software document)
- select the software that best fits the need
- show respect for technology and the equipment

By the end of KS2 the children need to secure the key knowledge, understanding and skills to:

- understand how digital systems work and how to put this knowledge to use through programming
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- understanding how networks provide opportunities for communication and collaboration, in school and the wider community
- use technology safely, respectfully and responsibly.

## Planning in Computing

The computing curriculum is structured to allow the children to progress through the programmes of study set out in The National Curriculum. These objectives have been mapped out by the school to ensure the children develop through the content in a logical, sequential and progressive manner.

Using the Long Term Curriculum Overview and Computing Curriculum Map documents, staff plan the yearly coverage and show the cross-curricular use of technology to develop the skills. Programming and Digital Literacy strands are planned termly or weekly, as separate documents, whereas planning for the Information Technology strand is apparent within the subject area in which it is being taught. As e-Safety is taught continuously there is no expectation that this will be evident in planning other than during e-Safety focus weeks or sessions.

When planning, teachers give careful consideration to identify the prior knowledge pupils need to access new learning. They decide on the best way to represent new concepts to the children and plan carefully to meet the needs of all children in the class, including those who require additional support and those who need challenging. Teachers have the confidence to respond to the children's needs and adapt their planning and teaching methods accordingly. All planning is stored centrally on the school server.

## Assessment in Computing

Assessment is a continuous process and teachers use a range of assessment techniques, before, during and after the lesson, to inform the next steps in teaching and to respond to the needs of the children they teach. Understanding in computing is assessed in the following ways:

- observing children during lessons
- quality questioning and discussion
- identifying errors and misconceptions
- work saved in the children's own folders on the server.
- work printed, fixed into workbooks where appropriate (at least once a term) and marked.

Teachers use the key objectives from the EYFS Framework and The National Curriculum to assess the children's understanding and track their progress against these objectives. Teachers will look for a range of evidence that demonstrates that the children can independently meet the objectives before assessing their competence against the objectives. This assessment practice is consistent across the school.

Pupil progress meetings are scheduled at different points throughout the year and are held with members of the school's SLT. These meetings help track the progress of the children in relation to their starting points and supports planning for their progress. All class teachers make a formal assessment twice a year about each child's attainment, before reporting to parents in February and for the end of year profile. This indicates whether each child is:

- 1) **Working towards** the national standard in maths.
- 2) **Working** at the expected standard maths.
- 3) **Exceeding** the expected standard in maths.

## Teaching and Learning

As the aims of computing are to equip children with the skills necessary to understand and use technology to become independent learners, the teaching style that we adopt is as interactive and practical as possible. This is achieved by:

- regular use of technology to develop key skills (at least weekly)
- supporting the pupils to use technology as effectively as possible
- assisting the pupils to make full use of technology with purpose and enjoyment
- differentiating appropriately for the needs of the children
- encouraging the pupils to become autonomous users of technology through providing a safe and encouraging environment
- supporting and challenging the children as appropriate
- expecting the children to gain high standards of achievement

- expecting the children to have a high level of engagement
- using technology to develop partnerships outside the school
- celebrating success in the use of technology

## **Subject Leadership**

The Computing Subject Leader provides overall direction for the subject. They are responsible for monitoring and evaluating the subject and identifying priorities for development. They are supported by the school's SLT and the Link Governor for Computing. The effectiveness of teaching and learning in computing will be monitored and evaluated by:

- Monitoring planning and assessment practice across the school.
- Analysing school, local and national data.
- Lesson drop-ins, learning walks and observations.
- Monitoring the quality of the children's work in their folders and books.
- Feedback from staff.
- Discussions with the children.
- Monitoring activities with the Computing Link Governor.
- Evaluating the quality and impact of CPD in computing.

The Subject Leader will also offer advice on devices and software when requested or appropriate, liaise with other curriculum coordinators to ensure effective use of technology in their areas and keep abreast of new software and technologies.

## **Resources**

Each classroom has an interactive whiteboard, teacher laptop, class camera, iPad and six pupil laptops (KS1 and FS2). All software in use on the school's computers is stored in the resources room.

Centrally stored equipment is also available: Laptop trolley with 30 laptops, 50 iPads, 15 microphones, floor robots (BeeBots, ProBots, Lego Mindstorms robots), webcams and mice.

Staff are allocated a school laptop for work use at home in order to plan and prepare resources. These computers will be maintained by the school but staff are responsible for providing appropriate care and use.

## **IT Support**

Any problems or issues involving the maintenance of the school network, hardware and software can be reported to the Subject Leader who can then ascertain if help needs to be requested from the IT Technician.

## **Health and Safety**

- Age appropriate class and safety rules are made clear to children.
- Children will take regular breaks if they are to spend any length of time on the computers.
- Use of the Internet will be monitored by staff and a school filtering system is in operation.
- Equipment is maintained to the meet agreed safety standards.
- The virus checker is updated regularly.

Subject Leader: Ali Dale

Date: July 2021 (AD)

Next Review: October 2023 (AD)

**RELATED DOCUMENTS:** Internet Safety Policies, Use of Internet Policy, Planning Assessment Recording and Reporting Policy, Learning and Teaching Policy, Subject Leader Role Descriptors