



# Curriculum

## Computing Policy

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## **Intent for Computing Curriculum**

Computing has become a major aspect of learning and education with the impact and benefits of computing systems permeating many areas of daily life. At Singlewell Primary School, we aim to develop 'thinkers of the future' through a modern, **ambitious** and relevant education of computing. We aim to provide the children with the skills they need to navigate the wider computing curriculum, as well as the knowledge they need to be **resilient** and adapt to new technology. Being **safe** is the primary concern when using computing systems and we will ensure that all children will have the necessary knowledge and experience to navigate through the digital world safely and productively. We aim to instil a sense of **curiosity** and fun when using computing systems, where problem solving becomes enjoyable and engaging. Our curriculum coverage also instils a sense of responsibility for being **equal** and productive when acting online and we aim to link the many aspects of computer usage with real day to day life. The computing curriculum at Singlewell Primary School provides a strong, secure platform of learning for the children to advance long into their academic and personal futures, incorporating aspects of computer programming as well as the tools they will need to traverse and utilise the internet for inspiration and wider learning.

## **Introduction**

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Singlewell School we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

## **Aims**

Provide a relevant, challenging and enjoyable curriculum for Computing for all pupils.

- Meet the requirements of the national curriculum programmes of study for Computing.
- Use Computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology.
- To equip pupils with the confidence and capability to use Computing throughout their later life.
- To enhance learning in other areas of the curriculum using Computing.
- To develop the understanding of how to use Computing safely and responsibly.

The national curriculum for Computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- 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.

### Rationale

The school believes that Computing:

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways which help pupils understand access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

### Objectives

#### Early Years

It is important in the foundation stage to give children a broad, play-based experience of Computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or programme a toy. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

#### Key Stage 1

By the end of 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 a sequence of instructions
- Write and test simple programs
- Use logical reasoning to predict and computing the behaviour of simple programs
- Organise, store, manipulate and retrieve data in a range of digital formats
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

#### Key Stage 2

By the end of key stage 2 pupils should be taught to:

- Design and write 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; generate appropriate inputs and predicted outputs to test programs
- Use logical reasoning to explain how a simple algorithm works 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
- Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

### **Resources and Access**

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible PC system by investing in resources that will effectively deliver the National Curriculum and support the use of Computing across the school.

Teachers are required to inform the Computing leader of any faults as soon as they are noticed. Resources if not classroom based are located in the Computing suite. A service level agreement with EIS is currently in place to help support the Computing Coordinator to fulfil this role both in hardware & audio visual.

ICT and computing network infrastructure and equipment have been sited so that:

Every classroom from Reception to Year 6 has a laptop connected to the school network which Teachers can take home (sign-out) with prior permission and use out of school time so that planning, preparation and assessment can take place and all teachers can keep up to date with technological developments. All classes have Clevertouch interactive boards with access to internet and various apps. Clevertouch can also be used in conjunction with classroom laptops.

There is a range of equipment to support our Computing Curriculum including Beebots, MicroBits, desktops etc.

Also

- Each class from YR – Y6 has an allocated slot across the week for teaching of specific Computing skills
- The Computing Suite and iPads are available for use throughout the school day as part of Computing lessons and for cross curricular use.
- Pupils may use Computing independently, in pairs, alongside a TA or in a group with a teacher.
- A Governor will be supporting the Computing Leads to continually enhance the curriculum.

### **Planning**

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As the school develops its resources and expertise to deliver the Computing curriculum, modules will be planned in line with the national curriculum and will allow for clear progression. Modules will be designed to enable pupils to achieve stated objectives. Currently, Singlewell Primary use Purple Mash as a means for teaching and delivering the Computing curriculum. Pupil progress towards these objectives is recorded by teachers as part of their class recording system. Staff will follow medium term plans set by Purple Mash, with objectives set out in the national curriculum.

### **Inclusion**

At Singlewell School we plan to provide for all pupils to achieve, including boys and girls, higher achieving pupils, gifted and talented pupils, those with SEN, pupils with disabilities, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

### **Health and Safety**

The school is aware of the health and safety issues involved in children's use of Computing. All electrical appliances in school are tested accordingly. All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should then be reported to the Computing Coordinator who will arrange for repair or disposal (if disposal the asset register will need to be updated).

E-Safety is also of significant importance (please see E-Safety Policy.)

### **Security**

- The Computing Coordinator will be responsible for regularly updating anti-virus software.
- Use of Computing will be in line with the school's 'Acceptable Use Policy'. All staff, volunteers and children must sign a copy of the schools AUP.
- Parents will be made aware of the 'Acceptable Use Policy'.
- All pupils and parents will be aware of the school rules for responsible use of Computing and the internet and will understand the consequence of any misuse.
- The agreed rules for safe and responsible use of Computing and the internet will be displayed in all ICT and computing areas and the relevant policies are accessible on the school's website.