

# New Ash Green Policy for Computing

## Rationale

The 2014 national curriculum introduces a new subject, computing, which replaces ICT. This represents continuity and change, challenge and opportunity. Computing is concerned with how computers and computer systems work, and how they are designed and programmed.

## Introduction

Computing is an integral part of the national curriculum and is a key skill for everyday life. Pupils studying computing will gain an understanding of computational systems of all kinds, whether or not they include computers. Computational thinking provides insights into many areas of the curriculum, and influences work at the cutting edge of a wide range of disciplines.

## Aims

- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for computing.
- Use ICT and 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 ICT and computing throughout their later life.
- To enhance learning in other areas of the curriculum using ICT and computing.
- To develop the understanding of how to use ICT and 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.

## Objectives

### **Early years**

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. ICT is not just about computers. Early years learning environments should feature ICT 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 compute 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.

### **Planning**

The scheme of work for Computing will provide guidance on the skills and knowledge to be covered by each year group. Basic lesson plans will be provided to each teacher, who will need to adapt the plans for their class. It is essential that these skills are taught and that they are practiced and developed during work in other subjects.

Activities using ICT will be planned to allow for different levels of achievement by pupils or to include the possibility of extension work. Teachers will be expected to intervene where appropriate to reinforce an idea or teach a new point.

Teachers and support staff will ensure that they understand the skills and concepts to be taught and the role of discussion in developing a critical awareness of the use of ICT.

### **Resources and access**

The school acknowledges the need to continually maintain, update and develop its resources. Teachers are required to inform the ICT and computing technician of any faults as soon as they are noticed.

- Every classroom from reception to y6 has a laptop connected to the school network and an interactive whiteboard with sound, DVD and video facilities.
- There is a computing suite of 31 desktops.
- Each class from y1 - y6 has an allocated slot across the week for teaching of specific ICT and computing skills
- The computing suite is available for use throughout the school day as part of ICT and computing lessons and for cross curricular use.
- Pupils may use ICT and computing independently, in pairs, alongside a TA or in a group with a teacher.
- The school has an ICT and computing technician who is in school one afternoon every week.

### **Health and safety**

The school is aware of the health and safety issues involved in children's use of ICT and computing. All electrical appliances in school are tested accordingly. It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be pat tested before being used in school. This also applies to any equipment brought in to school by, for example, people running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. to advise those people. 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 ICT technician who will arrange for repair or disposal.

### **Computing Coordinator**

The subject Coordinator will work with the school management team to ensure implementation of the school's ICT policy and four-year ICT development plan. The manager will be responsible for monitoring curriculum coverage and the quality of teaching and learning. The coordinator will plan and lead the development of all school staff in ICT and provide regular reports on the level of resources.