



## Computing Policy

### Aims and objectives

Computers have changed the lives of everyone and it is vital that we prepare children for digital citizenship. Through teaching computing we equip children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. We enable them to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way. Computing skills are a major factor in enabling children to be confident, creative and independent learners.

The aims of computing are to enable children:

- to develop capability in finding, selecting and using online information;
- to use computers and other multimedia devices for effective and appropriate communication;
- to monitor and control events both real and imaginary;
- to apply hardware and software to creative and appropriate uses of information;
- to apply their computing skills and knowledge to their learning in other areas;
- to use their computing skills to develop their language and communication skills;
- to explore their attitudes towards digital devices and their value to them, and society in general;
- to learn about issues of security, confidentiality and digital responsibilities and digital rights.

### Teaching and learning styles

The teaching style that we adopt is as active and practical as possible. We give children direct instruction on how to use hardware or software in 'skills' lessons, but we also use computers to support teaching across the curriculum. For example, children will research and investigate a history topic by using the Internet. Children who are learning science might use the computer to model a problem or to analyse data. Video is used to support speaking, listening and performing. We encourage the children to explore ways in which the use of computers can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by changing text or background etc.

We recognise that all classes have children with widely differing computing abilities. Some children have access to computing equipment at home, whilst others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways, by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (not all children complete all tasks);
- grouping children by ability in the room and setting different tasks for each ability group;
- providing resources of different complexity that are matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.

### Computing curriculum planning

We carry out the curriculum planning in computing in three phases (long-term, medium-term and short-term). The long-term plan maps the computing topics that the children study in each term during each key stage. The computing subject leader works this out in conjunction with teaching colleagues in each year

group, and identifies cross curricular opportunities. Our long-term computing plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan. The computing subject leader reviews these plans each term and at the end of every year. The class teacher is responsible for writing the short-term plans with the computing component of each lesson. These plans list the specific learning objectives of each lesson. The class teachers keep these individual plans and they and the computing subject leader often discuss them on an informal basis. A programming scheme of work is available for teachers to use from [primarycomputing.co.uk](http://primarycomputing.co.uk)

The topics studied in computing are planned to build upon prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also build planned progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

## **The Curriculum**

### **Early Years and Foundation Stage**

We teach computing in the Reception class as an integral part of the topic work covered during the year. As the Reception class is part of the Foundation Stage of the National Curriculum, we relate the computing aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. The children have the opportunity to use the computers, floor robots, digital cameras and iPads. Then during the year, they gain confidence and start using the computer to find information and use it to communicate in a variety of ways

### **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.

### **The contribution of computing to teaching in other curriculum areas**

Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links in closely with work in art, and work using databases supports learning in mathematics, whilst the Internet proves very useful for research in humanities subjects. Video work supports learning across the curriculum but particularly in Literacy. Computing enables children to present their information and conclusions in the most appropriate way.

### **English**

Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They have the opportunity to develop their writing skills by communicating using desktop publishing software, video presentations and by blogging. The use of computing in visual literacy lessons has been growing throughout school. This has helped to engage children, developed their comprehension skills and has stimulated very good quality work in speech and writing.

### **Mathematics**

Many computing activities build upon the mathematical skills of the children. Children use computers in mathematics to collect data, make predictions, analyse results, and present information graphically. They also acquire measuring techniques involving positive and negative numbers, and including decimal places.

### **Personal, social and health education and e safety**

Computing makes a contribution to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and e-mail. Through E-safety work and the discussion of moral issues related to electronic communication, children develop a view about the use and misuse of computing, and they also gain a knowledge and understanding of the interdependence of people around the world. The geography coordinator will be developing a link with an overseas school.

### **Teaching Computing to children with special needs**

At our school, we teach computing to all children, whatever their ability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances the use of computing has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in computing, we can take into account the targets in the children's Personal Education Plans. Through using appropriate and carefully selected software and hardware, we believe that the use of computers can help all children in achieving their targets and progressing in their learning.

### **Equal opportunities**

We will ensure that all children are provided with the same learning opportunities whatever their social class, gender, culture, race, disability or learning difficulties. As a result we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to computing and all staff members

follow the equal opportunities policy. Resources for special educational needs and gifted & talented children will be made available to support and challenge appropriately. Gifted and talented children work with the computing coordinator and computing consultant on projects using advanced programming language. Our gifted and talented children extend their computing skills by attendance at a lunchtime club and through lessons from the computing coordinator and the computing consultant. Through computing, children on the SEN register are provided with opportunities to use hardware and software that helps them with their learning and also enables teachers to have a more thorough diagnostic picture of their SEN children.

### **After-school clubs**

In our after school Minecraft clubs the children use computers to collaborate on community projects in an online world. Through 'gaming' they develop their skills in 'netiquette' and learn how they can work together to make a better 'world'.

### **Assessment and recording**

Teachers assess children's work in computing by making informal judgments as they observe them during lessons. Pupils' progress is closely monitored by the class teacher and at the end of each term; each pupil will be levelled for the strand of computing which has been studied. This class record is kept in the teacher's Assessment Folder. When appropriate, pupils print out work although children usually save their work into their user areas. The computing subject leader keeps samples of the children's work in a portfolio. This demonstrates the expected level of achievement in computing for each age group in the school.

### **Resources**

At Allerton CE Primary School we provide the children with the opportunity to learn in a multi-platform environment. By doing so we believe that we provide the children with skills that will prepare them to use the technologies of the future.

We have 18 PCs in our computer suite. Year 1 children also use a set of 14 Fizzbooks. Each Year 3 class have 15 Windows laptops, Year 4 children share 55 iPads, and 15 Chromebooks are used by Year 5 children. Year 6 children have a set of 30 Chromebooks. 4 Apple iMacs are used in the library and 4 Linux/iMacs are used in the KS2 shared area.

We have 15 Bee Bots, which are used in the teaching of control technology in Key Stage 1 and the Foundation Stage. Control technology resources for KS2 include a 'Makey Makey' and 5 Raspberry Pi robots equipped with all sensors. The school has a metal detector and ten LogIT explorers for use in logging data in Science lessons. Other equipment includes cameras, voice recorders and a set of 14 Nintendo DS.

Along with the hardware, the school has a very substantial bank of software and apps covering the following areas:

- word processing: (Textease and Word)
- painting/drawing: (2Paint, Dazzle and Revelation Natural Art)
- music composition: (2Compose and Garageband)
- multimedia presentation (Textease, Kar2ouche, PowerPoint, Keynote)
- spreadsheets/database programmes; (Textease and Excel)
- programming; (Textease Turtle, Scratch, Kodu, Kodable)

However, the online Office suite, Google apps and other internet apps are replacing traditional software. In KS2 children learn to use Google Drive, Slides, Sheets, Docs and Google Classroom to create, organise and share their work.

### **Monitoring and review**

The monitoring of the standards of the children's work and of the quality of teaching in computing is the responsibility of the computing subject leader and the Leadership Team. The computing subject leader is also responsible for supporting colleagues in the teaching of computing, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The computing subject leader regularly discusses the subject with the Head Teacher, and planning and action is taken as appropriate. During the year, the computing subject leader has allocated time for reviewing samples of the children's work and for planning scrutiny to ensure quality and breadth of teaching in computing.

### **Health and safety (see also Health and Safety policy and Internet policy)**

The school is aware of the health and safety issues involved in children's use of computing. All fixed electrical appliances in school are tested by an approved contractor every five years and all portable electrical equipment in school is tested by an external contractor every twelve months. It is advised that staff should not bring their own electrical equipment into school, as all equipment must be PAT tested before being used in school.

Damaged equipment should be reported to the technician or business manager who will arrange for repair or disposal. Children should not put plugs into sockets or switch the sockets on. Trailing leads should be made safe behind the equipment. Liquids must not be taken near the computers. Children should be seated correctly and should avoid excessive screen time.

E-safety forms an integral part of the curriculum and the school. Lessons are taught in every class in all terms, and meetings for parents are held every year. All Staff are kept up to-to-date through training for the subject coordinator and the whole staff.

### **Security**

The computing technician /coordinator will be responsible for regularly updating anti-virus software.

The use of computing equipment 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' at school entry.

All children will sign an Internet agreement when they are given their Internet user name and details.

All pupils will be aware of the school rules for responsible use 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 classrooms and computing areas.

### **Staff training**

The computing coordinator will be responsible for the identification and delivery of staff training requirements.

Staff training requirements will be met by:

- Auditing Staff skills and confidence in the use of computers on an annual basis. Arranging top-up training for individual staff members as required
- Ensuring that all Staff are up-to-date with E-Safety procedures.
- The computing coordinator will remain up-to-date with the latest developments in computing through subscriptions to relevant journals, attendance at relevant courses, etc., and will cascade any newly acquired knowledge/skills to staff members, where appropriate.

### **The use of digital images and publication of children's work and images.**

At the start of Reception all parents will receive a form which asks them to give their consent for their child's photograph and work to be published onto the school website. Any image, sound file, word document or video uploaded to our school website will not be accompanied by a child's name. Allerton CE Primary School will not be held responsible for the inappropriate distribution of images. For the safety and protection of our pupil parents are advised not to share images taken from the website on social networking sites or in the wider community.

### **Role of the Governors**

The subject leader will meet with the computing link governor at least once a year, who will provide a report to present at a full governing body meeting.

### **March 2018**

This Policy has been drawn up and written by the Computing Lead. It will be reviewed when updated when legislation or guidance is issued by the DfE, Local Authority or other relevant organisation.

This will be reviewed annually by the Governing Body.

Drafted by: David Moore

Date: Annually