Fladbury
Church of England First School

Computing Policy

Governor Committee Responsible:	**Curriculum and Standards**
Status:	**Statutory / Non-statutory**
Review Cycle:	**Every 4 years**
Staff Lead:	**J Wilson**
Date of Approval:	
Review date:	

OUR VISION

Every child at Fladbury will know they are loved by God, have a happy heart and be part of a flourishing, well-led school. When they leave Fladbury, they will be well-prepared to meet challenges, confident in their abilities and look forward to their bright future with an open mind.

John 10:10, "I came that you may have life and have it to the full."

Introduction

ICT has now become Computing: a hybrid of Computer Science, Digital Literacy and Information Technology.

Computing requires a greater focus on programming (especially at KS2) which was lacking from the previous statutory curriculum. 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 Fladbury First 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.

Aims and Purposes

The Computing curriculum should offer opportunities for our children to:

- Develop their understanding of the fundamental principles and concepts of computer science.
- Develop their skills in using hardware and software to manipulate information in their process of problem solving, recording and expressive work;
- Develop a high quality computing education which equips them to understand and change the world through logical thinking and creativity.
- Develop their understanding of how digital systems work and to become digitally literate individuals.
- Explore their attitudes towards Computing, its value for themselves, others and society, and their awareness of its advantages and limitations

Computer Science Aims
Our children should:

- Acquire and develop the skills associated with computer science in order 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 algorithms work and 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.

Information Technology (I.T.)
Our children should:

- Acquire and develop skills associated with Information technology in order to:
    - Use search technologies effectively.
    - Select, use and combine a variety of software 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.
    - acquire and refine the techniques *e.g. saving, copying, checking the accuracy of input and output* needed to use ICT;
    - practise mathematical skills *e.g. ordering numbers including negative numbers, measuring and calculating to an appropriate number of decimal places, drawing and interpreting graphs and bar charts* in real contexts;
    - learn why numerical and mathematical skills are useful and helpful to understanding;
    - develop the skills of collecting first hand data, analysing and evaluating it, making inferences or predictions and testing them, drawing and presenting conclusions, and use all these in their work with ICT

Digital literacy
Our children should

- Acquire and develop their skills in digital literacy in order to:
    - Understand the opportunities networks offer for communication and collaboration.
    - Be discerning in evaluating and presenting data and information.
    - Be able to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Language and Communication
Our children should:

- develop language skills *e.g. in systematic writing and in presenting their own ideas;*
- *u*se the appropriate technical vocabulary;
- read non-fiction and extract information from sources such as reference books or CD-ROMs.

Features of Progression
To ensure children make progress in computing, teaching should promote opportunities for children, as they move through the Key Stage, to progress:

- from using single forms of information to combining different types of information, matching the form of presentation to the audience and what is being communicated;
- from personal use of ICT to using ICT to meet the needs of, and communicate with, others;
- from using ICT to replicate and enrich what could be done without ICT *e.g. playing a word game or drawing a picture* to using ICT for purposes that could not have been envisaged without it such as exploring 'what if' situations and modelling new ones;
- from using everyday language to describe work with ICT to increasingly precise use of technical vocabulary and ways of recording;
- from personal use of ICT in a few areas to understanding a wider range of uses of ICT and the consequences of its use for themselves, their work and others;
- from using ICT to address a single task *e.g. writing a story* to addressing more complex issues, and balancing conflicting needs and criteria.
- from organising information as separate items *e.g. single graphic image* to organising information in sequences and more complicated, interactive, structures *e.g. a multimedia presentation or a database;*
- from initial exploration of ideas and patterns to more systematic use of ICT for analysis and design.

Building on Children's Earlier Experiences
Most of our children will have used a computer either at home or in their Pre-School. The differing background children have in computing capability offer a significant challenge to us at Fladbury. Children who have access to IT outside school often have greater skills in handling hardware and software. However, they may not have the full range of IT capability expected in the programme of study. By observing children's developing IT capability, we will be able to ascertain what tasks and expectations would best support their learning.

Curriculum
The children undertake a broad and balanced programme that takes into account children's abilities, needs as well as their emotional and intellectual development. Through computing, the children will learn a range of skills and knowledge to become digitally literate and understand how to use technology safely. We follow the NCCE's Teach Computing scheme for work using their cyclical pedagogy to ensure our pupils know more, remember more and are able to do more with their computing knowledge and skills.

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. Computing 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 explore using non-computer based resources such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

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,

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.

Computing Curriculum Planning

At Fladbury, computing is taught around a set of key concepts and second order concepts. A range of key concepts are explored through each computing unit. These concepts include:

1. Computing systems and networks: (systems, networks and how they are used, the internet, hardware and software)
2. Programming: (interpreting, creating and evaluating algorithms, programming to accomplish specific goals, detecting and correcting errors)
3. Data and information: (collecting, analysing, evaluating, presenting data and information)
4. Creating media: (design and development, communicating and collaborating online, evaluating online content, respectful and responsible communication, presenting, creating content)

As part of the work on each key concept, children also explore and learn about:

- The effective use of tools
- The impact of technology
- Safety and security

The curriculum is implemented through the use of the NCCE's Teach Computing scheme of work. A subject progression document is integral to the teaching and learning of computing across the whole school, and ensures that children are given the opportunity to build upon prior knowledge. The Teach Computing scheme of work was used to write the subject progression document and create progressive Key Performance Indicators (KPIs). Long term plans, medium term plans and pacing sheets provide an appropriate balance and distribution of work throughout the year. By following the progression document alongside the Teach Computing scheme of work, it ensures a sequence of lessons where knowledge and skills are practised, acquired and progressively built upon. Key vocabulary within the classroom is displayed and this is consistently referred to during lessons.

Assessment and Recording

At Fladbury assessment of children's work is on-going to ensure that understanding is achieved and that progress is being made. Feedback is given to the children as soon as possible and guided by the schools' Marking and Feedback Policy.

Monitoring

The impact of the computing curriculum is monitored regularly by the computing lead through pupil discussions, samples of work, discussions with teachers and lesson observations. This is then used to develop subject action plans. The computing lead regularly audits provision and staff training and plans training based on the needs of the staff.

Online Safety

Due to the increasing importance and ever-changing nature of online safety, a separate online safety policy has been created, detailing filtering and monitoring procedures along with other information about how we support staff, pupils and parents to stay safe online. Using the Teach Computing scheme of work, our school provides a progressive computing curriculum, which also teaches children about saying safe online and this is also supported throughout PSHE/RHE Heartsmart lessons. Online safety is a topic which is taught progressively in each year group through Teach Computing. Opportunities for learning about online safety are part of PSHE/RHE Heartsmart lessons and reinforced whenever technology is used and at regular assemblies. Clear rules for online safety are set out in the form of acceptable usage agreement which parents and pupils sign when a pupil first starts at the school. The school buys into a service called Securus's digital monitoring software who monitor the school's computers. They look for patterns, trends and anything that could potentially be a safeguarding risk to staff and pupils. Securus's digital monitoring software send weekly monitoring reports to the Designated Safeguarding Lead. Online safety rules are also displayed in each classroom for pupils to refer to if needed.

Equal Opportunities

All pupils regardless of race or gender shall have the opportunity to develop skills using computers and other related technology. The school will promote equal opportunities for computer usage and fairness of distribution of ICT resources. The class teacher differentiates work by task, resource or support, to ensure the individual needs of More Able and SEN pupils are met. The school is aware that not all pupils have the same access to computers at home and this is considered by staff in the planning and delivery of the curriculum.

Roles and Responsibilities

The Head teacher will:

- Actively support and encourage staff, praising good practice and supporting staff development, inservice training (particularly for the Computing Lead) and acquiring resources

The Computing Lead will:

- Advise and support staff in planning, teaching and learning of computing;
- Monitor teachers' planning as part of ongoing subject monitoring and evaluation of practice;
- Use feedback from monitoring to develop an action plan for computing with realistic and developmental targets;

- Audit, identify, purchase and organise all computing resources, ensuring they are readily available and well maintained;
- Document and review the agreed ways of working through a written policy document and knowledge and skills progression
- Compile a portfolio of children's computing work to evidence progression and examples of good practice for staff to refer to;
- Keep up to date on new developments in the use of computing in the curriculum and inform staff
- Promote computing throughout the school

The Class Teacher will:

- Be responsible for the planning and teaching of computing as set out in this policy;
- Use 'Key Performance Indicators' to inform teaching and learning as well as assess children's understanding;
- Follow the subject's long term plan and develop termly year group medium term plans and pacing sheets;
- Embed the computing knowledge and skills progression document within planning and quality first teaching;
- Create and regularly refer to a key vocabulary display within the class linked to each theme

Resources

The school has a range of resources to support the delivery of the Computing curriculum, the Early Years Framework and learning across all areas of the National curriculum. There are 6 PCs in the school library which the pupils can access and a set of shared iPads accessible across the school. The EYFS have additional iPads which can be used along with other technological toys and equipment, for example, Bee-Bots. The computing action plan feeds into the schools' priorities for equipment and future expenditure. Any expenditure is reviewed by the head teacher to look at the impact the purchase will have on pupils' learning.

School Website and Social Media

Our new School Website is located at www.fladbury.worcs.sch.uk. The school also has a Facebook account to share what is happening in school and for the purposes of self-publicising. This account is run by the Head Teacher and is used to share events, school information and successes within each class. The school uses 'ClassDojo' which enables the school to keep in touch with the parents.

Copyright and Licensing

All software used will be in strict accordance with the licence agreement. Entrust support the school with technical issues as well as ensuring that software on the computers is up to date and in accordance to licences. Personal software should not be loaded onto school computers.