	With God we grow to live life in all its fullness	
ICT and Computing Policy	**Issued**: March 2022	**Issued by**: J Little - Headteacher
Policy Number: FPS/0013		

Feckenham C of E Primary School

ICT and COMPUTING POLICY

Date Policy Reviewed:	March 2022	
Date Approved By Governing Body:	24.03.22	
Signed Headteacher:		Jeannette Little
Signed Chair of Governors:		Julie Grieve
Review Date:	March 2023	

Introduction

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.' Computing programme of Study, DfE, 2013

At Feckenham C of E Primary, we believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn't even exist yet. 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 Feckenham C of E Primary 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 aim of this document is to provide an overview to the Computing Curriculum across the Key Stages

Purpose

The Computing expectations within the National Curriculum split the teaching and learning of Computing into three strands :- Computer Science, Digital Literacy and Information Technology. It is therefore important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives. High quality teaching of Computing, from Reception through to Year 6, utilises a combination of practical lessons and theory lessons designed to promote discussion and nurture understanding, which are also relevant to other areas of the curriculum such as PSHE. This policy reflects the values and philosophy in relation to the teaching and learning of and with ICT. It sets out a framework within which teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment. This policy should be read in conjunction with the Chris Quigley Essentials Curriculum for Computing that sets out in detail what children in different year groups will be taught and how ICT can facilitate or enhance learning in other curriculum areas.

The Three Computing Strands

Computer Science
- To enable children to become confident coders on a range of devices.
- To create opportunities for collaborative and independent learning.
- To develop children's understanding of technology and how it is constantly evolving.

Digital Literacy
- To enable a safe computing environment through appropriate computing behaviours.
- To allow children to explore a range of digital devices.
- To promote pupils' spiritual, moral, social and cultural development.

Information Technology
- To develop ICT as a cross-curricular tool for learning and progression.
- To promote learning through the development of thinking skills.
- To enable children to understand and appreciate their place in the modern world

This document is intended for:
- All teaching staff
- All staff with classroom responsibilities
- School governors
- Parents
- Inspection Teams

Copies of this policy are kept centrally and are available from the office and the subject leader.

Aims (Intent and Implementation)

Feckenham C of E Primary School aims to ensure all pupils are:
- provided with a relevant, challenging and enjoyable curriculum for computing.
- meeting the requirements of the National Curriculum programmes of study for computing.
- using computing as a tool to enhance learning throughout the curriculum.
- responding to new developments in technology.
- equipped with the confidence and capability to use computing throughout their later life.
- learning computing in other areas of the curriculum.
- developing their understanding of how to use computing safely and responsibly (with the addition of remote learning).

Programme of Study
By the end of each Key Stage, pupils are expected to know, apply and understand the matters, skills and processes outlined in the relevant programme of study.

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 program 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 children should be able to:

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Think of a cup tea, what steps need to be taken to make it? What decisions have to be made? Do you want milk? Do you want sugar?
- Program a Bee-Bot through a maze, right down the instructions first, plan the instructions.
- Program a Bee-Bot to travel to a specific point. What instructions do you need to include in order for it to get there? Links to maths, measuring, angles, turns.

Create and debug simple programs
- Why does my cup of tea not taste right? Is it too sweet, too milky?
- Bee-Bot, where has it gone wrong, where does it need to change?

Use logical reasoning to predict the behaviour of simple programs
- If I put in two spoons of sugar will I like my cup of tea?
- If I put in these instructions where will the Bee-Bot end up?
- Scratch. Where will the cat end up? Logic. Moving the turtle?

Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Create a folder and save work

Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet
- Ceop
- Hector the Protector

Recognise common uses of information technology beyond school
- Learning Platform - Seesaw
- Create a poster on publisher for all the technology they use at home

Key Stage 2

By the end of Key Stage 2 children should be able 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 simple algorithms work and to detect and correct errors in algorithms and programs

- Understand computer networks including the internet; how they provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration > Using the learning platform to chat to peers and to communicate on joint projects together. > Skype on the tablets, video links between the classes on a shared learning day. > Use Seesaw to save work to, retrieving it and editing it in a variety of locations e.g. home and school.

- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content > Using advanced searches > Google is not the internet it is simply a search engine and there are others (Bing has a simple list of short cuts for advanced searches)

- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour? > CEOP

- 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 > Minibeast search – photograph the minibeast, upload to a computer. Another child views the uploaded images and creates a spreadsheet of what has been found. This has been analysed > Tablets to find facts > Internet to retrieve images > Cameras to create a digital image

Management and Organisation (Implementation)

The role of the Computing Co-ordinator is for them to be responsible for the development of Computing at Feckenham C of E Primary School. The role of Computing Coordinator involves:
- Raising standards in computing as a National Curriculum subject.
- Aiding the implementation of the computing curriculum by providing training and support to all staff, when necessary.
- Monitoring the delivery of the computing curriculum and reporting to the Head teacher on the current status of the subject.
- Ensure the development of computing through the construction and analysis of annual action plans.
- Liaising with other services, and other professionals, for technical and curriculum support.
- Ensuring their own knowledge and understanding of computing is kept up-to-date by attending courses and sharing new knowledge with staff.
- Discussing financial decisions with the Head Teacher.
- Promoting the use of computing resources across school, working with the Head Teacher to ensure resources are current and up-to-date

Staffing and Staff Development (Implementation)

Staff will:
- Have regular access to training and the knowledge of the Computing Coordinator
- Be responsible for managing computing within their classrooms.
- Be responsible for planning and delivering the computing curriculum in line with the 'Rising Stars Switched on Computing' schemes of work and Discovery Education for Coding.
- Work with parents and carers to develop appropriate computing skills and behaviours.

Assessment (Impact)

- Progress is assessed on an on-going basis using the Chris Quigley Essentials Curriculum for Computing. Pupils are assessed on a half termly basis and it is recorded online using Arbor. Classes and individual progress can be monitored to ensure progress. This summative assessment also ensures teachers are aware of individual pupil's progress in computer science, information technology and digital literacy.

- Each class teacher maintains a record on Arbor, indicating pupils that are working greater depth, expected, at or working towards age related expectations. Computing Milestones (objectives) are tracked and monitored half-termly using Arbor. By using the analysis tool within Arbor, teachers can target gaps in learning and extend and challenge the high achievers. Individual learning styles are targeted through the use of Solo Taxonomy; allowing teachers to make cross- curricular connections and target deep dives in learning.

- Alongside this, formative assessment is used by the class teacher and teaching assistant during whole class or group teaching. Children's confidence and difficulties are observed and used to inform future planning. Open questions are used to challenge children's thinking and learning.

- Children are aware of the milestone statements and are encouraged to set success criteria for their work.

- Children are encouraged to evaluate their own and others' work in a positive and supportive environment, including the use of Solo Taxonomy. (Structure of Observed Learning Outcomes). SOLO provides a structure that builds from the surface level (one idea and many ideas) to deeper level thinking (relate and extend). SOLO enables students to become more independent and self-regulating in their learning. It is also an accurate method of assessment to promote Deep Dives. Each level of SOLO builds on the previous level, increasing the complexity in five ways:

Pre-Structural	Uni-Structural	Multi-Structural	Relational	Extended Abstract
I don't really know anything about this.	I know one thing about this.	I know three or more things but I'm not sure when or why to use it.	I can do this and I know when and why I should use this.	I am able to model or teach this to others. I can even use what I know in other contexts.

- Information is shared with the school community through the school website, displays, celebration events, newsletters, and end of year reports

E-safety (Implementation)

- A progressive e-Safety curriculum ensures that all pupils are able to develop skills to keep them safe online.

- Opportunities for learning about e-Safety are part of our Computing and RSE lessons and are reinforced whenever technology is used.

- Clear rules for e-Safety are agreed by each class at the beginning of every year. Parents and pupils sign an Acceptable Use Policy when a pupil first starts at the school. These are then signed annually by pupils and parents.

Children are reminded (when they log onto to the computer) of the acceptable use agreement form they had to sign.

• The Rising Stars Switched on Computing and CEOP Online safety schemes of work are used to ensure progression and coverage; and provides positive rewards for responsible use of technology.

• The school supports the international Safer Internet Day each February.

• The school has an e-safety policy in place that details how the principles of e-safety will be promoted and monitored both in school and at home

Inclusion (Intent)

We believe that all children have the right to access ICT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the ICT and computing curriculum for some pupils. We teach ICT and computing to all children, whatever their ability. ICT and computing forms part of the National Curriculum to provide a broad and balanced education for all children. Through the teaching of ICT and computing we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Where appropriate, ICT and computing can be used to support SEN children on a one to one basis where children receive additional support. Additionally, as part of our Autism friendly approach to teaching and learning, we will use adapted resources wherever possible such as visual timetables, different coloured backgrounds and screen printouts.

Resources and Access (Implementation)

The school acknowledges the need continually to 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 strands of the National Curriculum and support the use of computing across the school. Teachers are required to inform the ICT technician of any faults as soon as they are noticed. Resources, if not classroom based, are located in the library. Computing network infrastructure and equipment has been sited so that:

- Every classroom from Reception to Year 6 has a PC connected to the school network and an interactive whiteboard with audio.

- There are 6 laptops for each year group, with internet access available to use in classrooms. Laptops are kept in each classroom for use in all subjects. Classes may lend laptops to other year groups to allow each child to have a laptop during core computing teaching lessons.

- There are 16 ipads, which can be used in the classroom. They are stored centrally in the library. In addition to this, each class has a class ipad for use during all subjects and for collecting photos.

- Each class from Reception to Year 6 has an allocated ICT slot across the week for teaching of specific computing skills

Monitoring and Review of the ICT Policy

This policy is regularly reviewed and updated by the ICT Coordinator. They are primarily responsible for the monitoring and implementation of the policy. All ICT teachers and other staff are responsible for the implementation of the policy in their use of ICT in lessons.

This policy should be read in conjunction with the e safety policy and safeguarding policy. All of these policies are published online on the school's website.

Appendix 1 - Glossary of terms

Algorithm – an unambiguous procedure or precise step-by-step guide to solve a problem or achieve a particular objective.

Computer networks – the computers and the connecting hardware (wifi access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method ('protocol').

Control – using computers to move or otherwise change 'physical' systems. The computer can be hidden inside the system or connected to it.

Data – a structured set of numbers, representing digitised text, images, sound or video, which can be processed or transmitted by a computer.

Debug – to detect and correct the errors in a computer program.

Digital content – any media created, edited or viewed on a computer, such as text (including the hypertext of a web page), images, sound, video (including animation), or virtual environments, and combinations of these (i.e. multimedia).

Information – the meaning or interpretation given to a set of data by its users, or which results from data being processed.

Input – data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors.

Internet – the global collection of computer networks and their connections, all using shared protocols (TCP/IP) to communicate. logical reasoning – a systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules.

Output – the information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly though the control of motors in physical systems.

Program – a stored set of instructions encoded in a language understood by the computer that does some form of computation, processing input and/ or stored data to generate output.

Repetition – a programming construct in which one or more instructions are repeated, perhaps a certain number of times, until a condition is satisfied or until the program is stopped.

Search – to identify data that satisfies one or more conditions, such as web pages containing supplied keywords, or files on a computer with certain properties.

Selection – a programming construct in which the instructions that are executed are determined by whether a particular condition is met.

Sequence – to place programming instructions in order, with each executed one after the other.

Services – programs running on computers, typically those connected to the internet, which provide functionality in response to requests; for example, to transmit a web page, deliver an email or allow a text, voice or video conversation.

Simulation – using a computer to model the state and behaviour of real-world (or imaginary) systems, including physical and social systems; an integral part of most computer games.

Software – computer programs, including both application software (such as office programs, web browsers, media editors and games) and the computer operating system. The term also applies to 'apps' running on mobile devices and to webbased services.

Variables – a way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user's name.

World Wide Web – a service provided by computers connected to the internet (web servers), in which pages of hypertext (web pages) are transmitted to users; the pages typically include links to other web pages and may be generated by programs automatically.

'Naace- Computing in the National Curriculum- A guide for primary teachers'