



Computing Policy

“To help every person to achieve his or her best in work and in play. To celebrate whatever is good and to follow in the footsteps of Jesus by supporting and forgiving each other, For the honour and the glory of God.”

Introduction

This policy sets out our school's vision, aims, principles and strategies for the delivery of Computing and the use of technology to support the curriculum. Alongside the school's Strategic Development Plan for Technology, it will form the basis for the development of the Computing curriculum in the school over the next 3 years.

The policy was written in 2022. Sections of the text have been drawn together from a variety of sources including the [National Curriculum for Computing \(England\)](#), the [Computing at Schools Guide for Primary Teachers](#), <https://teachcomputing.org/curriculum>, <https://computingqualityframework.org/> and <https://www.computingatschool.org.uk/>.

What is 'Computing'?

The National Curriculum Purpose of Study states that:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Whilst the Computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens 'behind the scenes', it is important that they also continue to develop their Digital Literacy and e-safety capability and our school curriculum is designed to reflect this.

The School's Computing Curriculum

Intent

As a school, we embrace the national vision for Computing and appreciate that, to achieve this, pupils must have access to a curriculum which is 'balanced and broadly based'. Our aim is to produce learners who are confident, discerning and effective users of technology and who also have a good understanding of computers and how computer systems work, and how they are designed and programmed.

We strive to achieve this aim by:

- supporting all children in using technology with purpose and enjoyment
- Meeting, and building on the minimum requirement set out in the National Curriculum as fully as possible and helping all children to achieve the highest possible standards of achievement
- Helping all children to develop the underlying skills and capability which is essential to developing Computing capability (such as problem solving, perseverance, learning from mistakes) and apply them elsewhere
- helping all children to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users
- helping all children to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully.
- using technology to develop partnerships beyond the school
- celebrating success in the use of technology.

At St Anne's RC Primary School, teachers are encouraged to progressively develop pupils' computing skills and capability through discrete learning opportunities, and also to exploit this capability as a tool to support objectives in other curriculum areas meaningfully. These links include, but are not limited to, the use of a range digital devices in a wide range of contexts. Both plugged and unplugged learning opportunities are planned to support pupils' understanding of the underlying concepts in Computing. These opportunities may well be presented within other subject areas (e.g. sequencing instructions in English, problems solving in Maths or isolating variables in Science).

In this way Computing and the use of technology become integrated into the curriculum and are used as a truly beneficial tool for learning.

Implementation

At Key Stages 1 and 2, the planning, organisation and delivery of the Computing curriculum is supported by <https://teachcomputing.org/curriculum>. In the EYFS, Computing is not explicitly taught however links are made between the EYFS Early Learning Goals. Children also have access to a range of hardware in their provision so that they are familiar with it before entering Year 1 to ensure a smooth transition takes place.

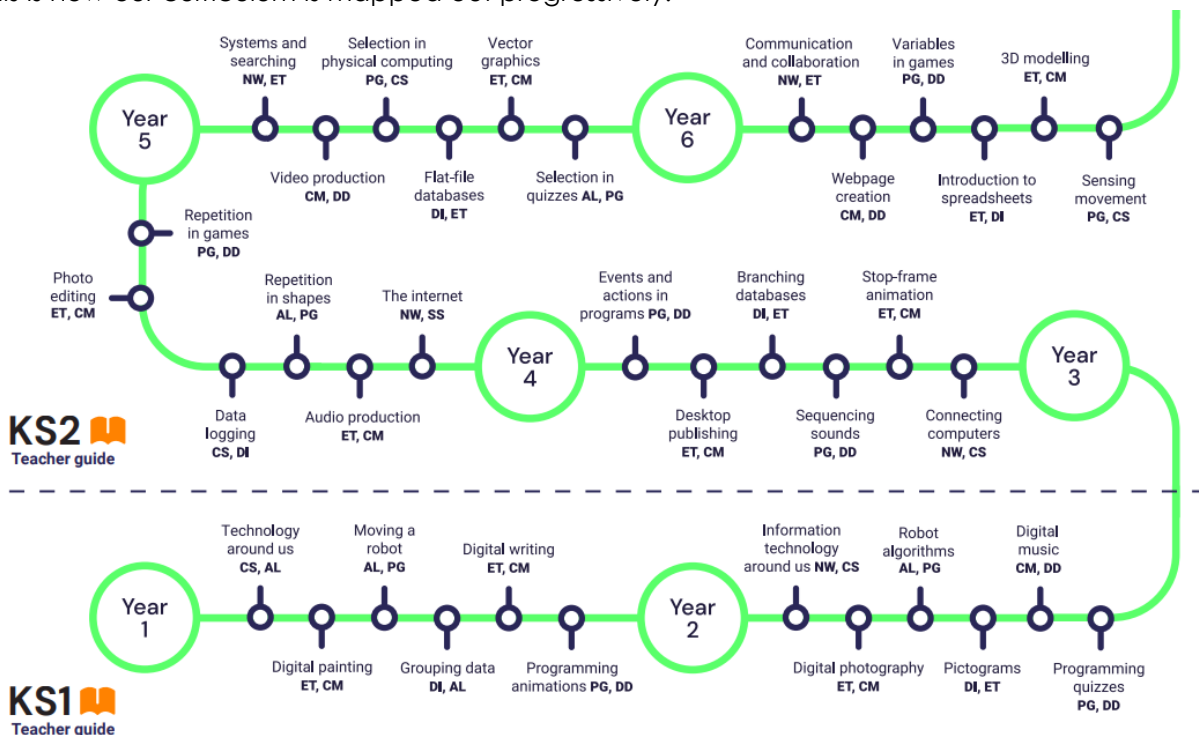
The Teach Computing statements are designed to break the curriculum down into possible 'themes' and provide guidance on progression across and between year groups. Using these materials, the school has developed its own flexible scheme of work for Computing which is adapted regularly to allow pupils' capability to be used effectively in other curriculum areas.

At Key Stages 1 and 2 the school's Computing curriculum is organised into the following aspects:

- Computing Systems and Networks
- Creating Media
- Data and Information
- Programming

These themes are mapped in a long term plan for the whole school, with elements of each theme taught in most terms.

This is how our curriculum is mapped out progressively:



We also ensure that our pupils are fully equipped with the correct Computing terminology. In order to monitor the vocabulary has been mapped out by Key Stages.

KEY STAGE 1 GLOSSARY	
Algorithm	A precise set of ordered steps that can be followed by a human and implemented on a computer to achieve a task
Attribute (property)	A word or a phrase that can be used to describe an object such as its colour, size, or price
Code	The commands that a computer can run
Code snippet	A section of a program viewed in isolation
Command	A single instruction that can be used in a program to control a computer
Computer	A programmable machine that accepts and processes inputs and produces outputs (input, process, output; IPO)
Data	A letter, word, number etc. that has been collected for a purpose, but stored without context
Debugging	The process of finding and correcting errors in a program
Information	Data put into a context that provides meaning
Information technology	The study, use, and development of computer systems for storing, processing, retrieving, and sending information
Object	Something that can be named and has other attributes (properties), which can be labelled
Program	A set of ordered commands that can be run by a computer to complete a task
Property (attribute)	A word or a phrase that can be used to describe an object such as its colour, size, or price
Run (execute)	To action the commands in a program
Technology	The use of scientific knowledge for practical purposes

KEY STAGE 2 GLOSSARY

Algorithm	A precise set of ordered steps that can be followed by a human and implemented on a computer to achieve a task
Attribute (property)	A word or a phrase that can be used to describe an object such as its colour, size, or price
Browser	SEE: Web browser
Code	The commands that a computer can run
Code snippet	A section of a program viewed in isolation
Command	A single instruction that can be used in a program to control a computer
Computer	A programmable machine that accepts and processes inputs and produces outputs (input, process, output; IPO)
Computer network	A group of interconnected computing devices
Computer system	A combination of hardware and software that can have data input to it, which it then processes and outputs. It can be programmed to perform a variety of tasks.
Condition	A statement that can be either True or False
Condition-controlled loop	SEE: Loop (condition-controlled)
Count-controlled loop	SEE: Loop (count-controlled)
Data	A letter, word, number etc. that has been collected for a purpose, but stored without context
Data set	A collection of related data
Debugging	The process of finding and correcting errors in a program
Decompose	To break down a task into smaller, more achievable steps
Digital device	A computer or a device with a computer inside that has been programmed for a specific task
Domain name	The part of a website's URL that is user friendly and identifies that it is under the control of a particular person or organisation e.g. raspberrypi.org
Execute (run)	SEE: Run
Hardware	The physical parts of a computer system
HTML (HyperText Markup Language)	A standardised language used to define the structure of web pages
Hyperlink	(Also: link, weblink) Text or media that when clicked, takes the user to another specified location (URL)
Infinite loop	SEE: Loop (infinite)
Information	Data put into a context that provides meaning
Information technology	The study, use, and development of computer systems for storing, processing, retrieving, and sending information
Input	Data that is sent to a program to be processed
Input device	A piece of hardware used to control, or send data to, a computer
Internet	The global system of interconnected computer networks

Loop	(Count-controlled, condition-controlled, or infinite) Commands that repeatedly run a defined section of code
Loop (condition-controlled)	A command that repeatedly runs a defined section of code until a condition is met
Loop (count-controlled)	A command that repeatedly runs a defined section of code a predefined number of times
Loop (infinite)	A command that repeatedly runs a defined section of code indefinitely
Network	SEE: Computer network
Object	Something that is uniquely identifiable and has attributes
Output	The result of data processed by a computer
Output device	A piece of hardware that is controlled by outputs from a computer
Procedure	A named set of commands that can be called multiple times throughout a program. This type of subroutine does not return a value.
Process	A program, or part of a program, that is running on a computer
Program	A set of ordered commands that can be run by a computer to complete a task
Property (attribute)	A word or a phrase that can be used to describe an object such as its colour, size, or price
Repetition	Part of a program where one or more commands are run multiple times in a loop
Router	A device that manages the flow of data between computer networks
Run (execute)	To action the commands in a program
Selection	Part of a program where if a condition is met, then a set of commands is run
Server	A networked computer that manages, stores, and provides data such as files to other computers
Software	The programs used to control computers and perform specific tasks
Stored (data)	Data kept digitally so that it can be accessed by a computer
Subroutine	A named sequence of commands designed to perform a specific task
Switch (network switch)	A device that manages the flow of data packets within a computer network
Technology	The use of scientific knowledge for practical purposes
URL (Uniform Resource Locator)	The address of a file on the internet
Variable	A named piece of data (often a number or text) stored in a computer's memory, which can be accessed and changed by a computer program
Web	SEE: WWW (World Wide Web)
Web address	URL (Uniform Resource Locator)
Web browser	A program used to view, navigate, and interact with web pages
Web page	A HTML document viewed using a web browser
Website	A collection of interlinked web pages, stored under a single domain

WiFi	A technology that allows devices to wirelessly access a network and transfer data
WAP (Wireless Access Point)	A network device that allows wireless computing devices to connect to a wired network
WWW (World Wide Web)	A service provided via the internet that allows access to web pages and other shared files

Safeguarding Children: Online Safety

At St Anne's RC Primary School we believe that the use of technology in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information-rich society, our children must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and promote pupil achievement. Yet at the same time we recognise that the use of these technologies can put young people at risk within and outside the school.

Online safety is also taught explicitly throughout the year through our PHSE curriculum as well as whole school initiative which also involve parents.

Teaching and Learning Approaches

When delivering the National Curriculum for Computing, teachers are expected to employ a range of strategies and to use their professional judgement to decide on the most appropriate teaching and learning approach for the class, groups of pupils or individual pupils.

Approaches and strategies used may include:

- an 'unplugged' approach in order to develop their understanding of some of the underlying concepts of Computer Science
- 'plugged' activities which allow pupils to practise and demonstrate their levels of understanding.
- using presentation technology to demonstrate something to a group of pupils or the whole class
- leading a group or class discussion about the benefits and risks of technology
- individual or paired work
- collaborative group work
- pupil led demonstrations / peer mentoring. NB - Where one pupil is used to demonstrate or teach a skill to others, the teacher must feel confident that this is of benefit to all those involved.
- differentiated activities planned to allow different levels of achievement by pupils or to incorporate possibilities for extension work.
- teacher intervention where appropriate to support a pupil, reinforce an idea, teach a new point or challenge pupils' thinking.

Access and Inclusion

Each pupil's access to technology varies greatly dependent on the nature of the activity they are involved in (e.g. some activities benefit from prolonged access to a computer whilst other are best served with brief access to a digital device for a focussed purpose). However, on average, pupils have a whole week every half term to access a mixture of unplugged activities and the following technology:

- Laptops
- iPads
- Programming equipment

In addition to discrete Computing sessions, opportunities to develop and extend Computing capability are provided in other curriculum areas and technology is used to support most other subject areas.

All children have equality of access to appropriate technology in order to develop their personal Computing capability. When children are working in groups, we endeavour to ensure that their hands-on experience is equitable. We check resources, software and documentation to ensure that gender and ethnicity are reflected in a balanced way without stereotyping.

The SEND lead and Computing Subject Leader jointly advise teachers on examples of technology which can be provided to support individual children with particular physical, linguistic and educational needs, including gifted and talented pupils. Where appropriate, an external specialist is used to assess a child's specific needs.

Children with access to technology at home are encouraged to use it for educational benefit and online safety guidance is offered to both pupils and parents where appropriate. The school has identified those pupils who have limited or no access to appropriate technology outside of school and provide additional opportunities for these pupils to gain access during the school day / after school.

Extended Opportunities for Learning

The school uses a variety of online tools and environments to extend learning opportunities beyond the classroom. In addition to facilitating remote learning (see separate policy), our online learning tools allow pupils to access learning materials and tools anytime, anywhere and provide channels of communication to both adults and children alike and break down barriers to learning. Our online learning tools are also used to teach children the skills and capabilities they need to stay safe and well in the digital world.

Other examples of Extended Opportunities for Learning at St Anne's RC Primary School include:

- School clubs.
- Family Learning events.
- Parental online safety events

Monitoring

The Computing Subject Leader follows a systematic and regular programme of evaluation and monitoring of the Computing curriculum, across the school. This is so that he can monitor the quality of education being provided to all pupils, including:

- Checking that the school's curriculum 'Implementation' matches its 'Intent'
- Evaluating the success (or otherwise) of curriculum planning and delivery
- Having an awareness of impact and be able to demonstrate progression and attainment
- Having an overview of resource and staff training needs

Monitoring is completed via a variety of methods including:

- Lesson Drop-ins
- Collecting and analysing planning
- Work scrutinies
- Gathering information from observations of other subjects
- Pupil interviews / pupils voice
- Staff interviews / feedback

As a result of monitoring, appropriate CPD opportunities are provided for staff on an individual, group and whole school basis in line with the school's wider CPD policy, School Development Plan and Strategic Technology Development Plan. A record of these opportunities is kept by the Subject Leader, CPD coordinator and individual members of staff.

Recording and Assessment

Assessment of the Computing curriculum is carried out in accordance with the advice provided by Teach Computing.

We (will) ensure that:

- appropriate Assessment for Learning approaches are applied to formative assessment in order to inform future planning
- pupils' achievement and attainment is assessed and recorded on at least a termly basis
- pupils' achievement and attainment is measured against the relevant National Curriculum requirements at the end of each Key Stage and reported according to government guidelines (including statutory requirements for reporting to parents)

Roles and Responsibilities

The role and impact of technology stretches beyond the National Curriculum for Computing and it is therefore important to acknowledge the roles and responsibilities held by key people across the school.

The following responsibilities are carried out by the head teacher and Computing lead:

- ensuring the consistent implementation of Computing policy
- ensuring continuity between year groups
- overseeing health and safety policy and practice
- resources budget management
- ratifying the school's Strategic Development Plan for Technology
- arranging in-service support
- Leading the development and implementation of the school's e-safety policy in line with other Child Protection policies

The following responsibilities are carried out by the Computing Subject Leader:

- presenting exemplary practice in the teaching of Computing
- advising colleagues on planning, delivering and assessing Computing
- Monitoring the effective use of technology and giving advice where appropriate
- ensuring progression in Computing
- suggested purchasing plans for hardware and software
- organising Computing resources
- identifying what support / CPD is needed by individual staff / groups of staff / the whole school
- reviewing and revising the Computing policy and other associated documents
- Co-ordinating and overseeing equipment maintenance

Safe Disposal of Equipment

Government regulations state that any old electrical or electronic equipment must be disposed of in an environmentally responsible way. The regulations which govern this are the [Waste Electrical and Electronic Equipment Regulations](#) (WEEE) 2006 and 2013. Schools are therefore required to have a compliant process

for disposing of waste electronic and electrical equipment (anything that requires batteries or a plug to operate).

The school acts in accordance with advice gained through <https://ark.me.uk/> regarding safe disposal of equipment. In particular, electrical equipment is safely disposed of (and wiped where necessary) through an Asset Disposal Service provided by

Health and safety

Both staff and children are aware of the need for health and safety to be kept in mind when using technology. Signs displaying relevant warnings are displayed around the school and regular attention is drawn to the issue of safe use of equipment. In particular, the following safety issues have been considered when using technology in school:

Comfort - users should be comfortably positioned with easy access to all equipment.

Space - There should be enough space around a workstation including special educational equipment and peripherals.

Seating – this has been chosen so that it is the correct height for knees to fit comfortably under the desk.

Monitors - These should be moved to suit the needs of the users.

Keyboards - Users should have the option to have their keyboard flat or tilted and move it to a comfortable position.

Cables - Are covered and secure. Children are not to connect or unplug electrical equipment.

Digital Projectors – Users are aware that they must not look directly into the light beam emitting from the digital projector.

All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and all of the above are presented so as to ensure the pupils respect the equipment and respect other people's work on the computer. All users are also reminded of the need to take regular breaks when using electrical equipment.