



## **Computing Policy**

**Implementation Date – January 2024**

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# Computing Policy

## **Introduction**

At The Whitchurch Federation, we believe that Computing and the use of digital devices are central to the education of all children. Our commitment to this is reflected through the implementation of 1:1 iPads for all children in Years 3-6 as a tool for enhancing teaching and learning. Each pupil is given the opportunity to apply and develop his/her technological understanding and skills across a wide range of situations, equipment, and tasks. Pupils are encouraged to develop a confident and safe approach to Computing and the use of ICT, with the understanding of the capabilities and flexibility of their resources. With the knowledge that Computing and ICT will undoubtedly continue to form a major part in the child's life at home, in further education and places of work, we ensure that the Computing and ICT experiences and abilities that the pupils are equipped with at our school, are effective and transferable life-skills and ensure that our pupils can be digitally confident in an ever-changing technological landscape.

## **Objectives**

The National Curriculum 2014 states that a high-quality Computing curriculum equips children to use computational thinking and creativity to understand and change the world. The core of Computing is computer science and at The Whitchurch Federation, pupils will be taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Pupils will be equipped to use ICT to create programs, systems, and a range of content. Computing at The Whitchurch Federation ensures that pupils become digitally literate, able to use and express themselves and develop their ideas through ICT, at a level suitable for their academic stage, which will develop them for the future workplace and as active participants in a digital world.

## **Intent**

The Computing curriculum should offer opportunities for our pupils 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 ICT, its value for themselves, others and society, and their awareness of its advantages and limitations.
- Be responsible, competent, confident, and creative users of ICT.
- Use ICT safely.

# The Curriculum

At The Whitchurch Federation, knowledge, understanding and skills in Computing and ICT are developed in each year group, from Foundation Stage to Year 6. The curriculum covers **four** broad areas of learning as outlined below:

## 1. *Computer science*

Our pupils should:

- Acquire and develop the skills associated with computer science 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.

## 2. *I.T.*

Our pupils should:

- Acquire and develop skills associated with Information technology 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 devices.
- 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 using different devices.

## 3. *Digital literacy*

Our pupils should:

- Acquire and develop their skills in digital literacy 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.

## 4. *Language and Communication*

Our pupils should:

- Develop language skills e.g. in systematic writing and in presenting their own ideas.
- Use the appropriate technical vocabulary.
- Read non-fiction and extract information from sources such as reference books, I-books, e-pub books, or DVDs.

## **Skills covered throughout the school are further divided to ensure coverage and progression:**

### **Coverage**

#### *The Foundation Stage (Nursery and Reception)*

In the Foundation Stage, pupils should:

- Know how to operate simple equipment, e.g. turn on a CD player and use a remote control.
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements, or new images.
- Know that information can be retrieved from computers.
- Complete a simple program on a computer.
- Use ICT hardware to interact with age-appropriate computer software.
- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for purposes.

#### *Key Stage 1*

Throughout years 1 and 2, pupils should:

- Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- Recognise common uses of ICT beyond school.
- Use technology safely and respectfully, keeping personal information private, identify where to go to for help and support when they have concerns about content or contact on the internet or other online technologies.

#### *Key Stage 2*

Throughout years 3, 4, 5 and 6, pupils should:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems and solving 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 can provide multiple services, such as the worldwide web and the opportunities they offer for communication and collaboration.
- Use search technologies effectively, appreciate how results are selected and ranked and be discerning in evaluating digital content.
- Select, use, and combine a variety of software (including internet services) 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.
- Use technology safely, respectfully, and responsibly, recognise acceptable / unacceptable behaviour, identify a range of ways to report concerns about content and contact.

## Features of Progression

To ensure pupils make progress in Computing, teaching promotes opportunities for children, as they move through the Key Stages, to advance:

- 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 computing to using computing to meet the needs of, and communicate with, others.
- from using computing to replicate and enrich what could be done without computing e.g. playing a word game or drawing a picture to using devices 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 computing to increasingly precise use of technical vocabulary and ways of recording.
- from personal use of computing in a few areas to understanding a wider range of uses of computing and the consequences of its use for themselves, their work, and others.
- from using computing to address a single task eg writing a story to addressing more complex issues and balancing conflicting needs and criteria.
- from organising information as separate items eg single graphic image to organising information in sequences and more complicated, interactive, structures eg a multimedia presentation or a database.
- from initial exploration of ideas and patterns to more systematic use of computing for analysis and design.

## Planning

### *Early Years Foundation Stage*

Computing in the Early Years Foundation Stage incorporates a range of different learning opportunities. Computing in EYFS is centred around play-based, unplugged (no computer) activities that focus on building children's listening skills, curiosity and creativity and problem solving.

This includes the following:

- taking a photograph with a camera or tablet
- playing games on the interactive whiteboard and iPads
- exploring an old typewriter or other mechanical toys
- using a Beebot
- watching a video clip
- listening to music

Allowing children the opportunity to explore technology in this carefree and often child-led way, means that not only will they develop a familiarity with equipment and vocabulary, but they will have a strong start in Key Stage 1 Computing and all that it demands.

### *Key Stage 1 & 2*





Computing is planned by class teachers using Magpie Education and both 'Teach Computing', 'Code.org' and 'Project Evolve' which provide schemes work. Computing is taught weekly in both key stages, in accordance with the 2014 National Curriculum. An appropriate balance and distribution of work across each half term is provided with ample opportunity to revisit and extend pupils' learning. During each half term, specific learning objectives, tasks and activities are assessed using the markbook in the marking and assessment portal within the Magpie Education app. In Key Stage One, a teacher Showbie account is used to evidence the children's learning journey and teachers photograph the children's learning to evidence progression. Pupil voice is captured during

lessons, as an additional opportunity for formative assessment, and this is included within the floor books.

In Key Stage Two, learning will be shared via Showbie. Weekly resources will be uploaded to the lesson's folder on Showbie and this will allow all children to have direct access to the lesson's flipchart, making learning interactive. Where children complete a 'paper-based' learning task, this will be uploaded separately on Showbie and will be individually marked with comments and the use of an emoji, as per the feedback policy. Where work has been practical, photos will be uploaded to Showbie to evidence the learning that has taken place. When learning is based on Code.org, children will screenshot and screenshare their learning journey within the lesson and upload this to Showbie.

## Assessment

Markbooks are used on Magpie Education's Planning and Assessment portal so that pupils' skills, understanding, and abilities are accurately assessed after each lesson, using the following system, ensuring clarity and consistency across all year groups in Key Stage One and Two:

-  **Not assessed**  
Yet to be assessed or absent.
-  **Target**  
Introduced to a concept but more work needs to be done.
-  **Working towards**  
Working towards or part met a concept.
-  **Mastered**  
Secured and consolidated a concept.

## Values and Attitudes

Our pupils should:

- Work with others, listening to their ideas and expertise and treating these with respect eg cooperating and collaborating when using a computer as part of a group to ensure that all contribute.
- Acknowledge the ownership of ideas and recognise the value of information held on ICT systems eg. recognising how much work has gone into producing a computer file, and how easily careless access can destroy it.
- Be aware of the security of their own and other people's information in electronic form eg recognise that they should ask before reading or copying from other's work.
- Recognise the importance of printed output eg keeping examples of work safe so that source files may be easily identified when work is developed later.
- Be creative and persistent eg when assembling a computer file from a large amount of source material.
- Consider the origin and quality of information and its fitness for purpose.
- Evaluate critically their own and others' use of computing.
- Recognise the strengths and limitations of computing and its users eg recognising that a work processor is an effective and efficient tool to help writing, but, on occasion, handwritten text is more appropriate.
- Develop knowledge and understanding of important ideas, processes and skills and relate these to everyday experiences.
- Learn about ways of thinking and finding out about and communicating ideas.
- Explore values and attitudes through computing.

## Health and Safety

- Pupils should not be responsible for moving heavy equipment around the school.
- Children in Years 3-6 are shown how to plug carefully and responsibly their 1:1 iPad into the class trolley at the end of each day, ensuring that these are put in the correct place and are handled with care.
- Food and drink should not be consumed near any computing/ICT equipment.
- It is the responsibility of staff to ensure that computing equipment is stored securely, cleaned regularly and that laptops and tablets are returned to the trolleys, and plugged in, at the end of each day.
- An adult should always supervise children when they are accessing information via the Internet. The service provider does filter information, but staff are advised to take great care on the content accessed by children and are ultimately responsible for information accessed by pupils.

## Staff training

\_Needs will be met by:

- Auditing staff skills and confidence in the use of information technologies regularly.
- Arranging training for individuals as required.
- The Computing Lead will attend courses and support and train staff as far as possible.
- Support will be provided via the Britannia Teaching School Alliance.
- Annual e-safety and safeguarding training must be arranged and completed by all staff working with children.
- All staff must be trained on professional conduct and safer working practices regarding technologies such as Twitter, Facebook, Blogging etc.