



### Computing Curriculum

Intent	Implementation
<p>The computing curriculum at West Earlham Infant and Nursery School aims to provide our children with a strong foundation of the computing skills, knowledge and understanding that they require in order to positively take part in the digital world. The digital world is constantly adapting, changing and improving, therefore we aim to provide our pupils with the computing and creative skills required to enable them to not only understand computing but also be confident and creative in their approach. We aim for our children to understand the technological world and the impact that they have upon it.</p> <p>At West Earlham Infant and Nursery School we aim to ensure that our teaching enables all children to:</p> <ul style="list-style-type: none"> <li>- Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>- Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>- Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>- Be responsible, competent, confident and creative users of information and communication technology.</li> </ul>	<p>We acknowledge that computing skills are found across and can enhance a variety of curriculum areas including: mathematics; science; PSHE; and design and technology. Our approach when implementing our computing curriculum aims to teach the integral computing skills both implicitly and explicitly. This allows our computing skills teaching to be threaded throughout learning experiences in a cross-curricula manner as well as during explicit computing lessons.</p> <p>Alongside the Computing curriculum, children are supported to become safe internet users following regular Online Safety discussions whilst delivering the important message of how to stay safe online.</p> <p>Our <b>EYFS curriculum</b> is taught through the EYFS statutory framework (2023). The Understanding the World area of learning states: “Understanding the world involves guiding children to make sense of their physical world and their community.... Listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. In EYFS, the key computing concepts are supported and linked with the Characteristics of Effective Learning.</p> <p><b>In Key Stage 1</b> we follow the ‘Teach Computing’ Curriculum. The units are based on a spiral curriculum, which means that each theme is revisited at least once per</p>

**In EYFS** computing skills are embedded in our curriculum and continuous provision. We aim for children to engage in a range of activities which will build foundational skills allowing them to safely access technology in the digital world.

Children will have access to:

- Digital screens
- Cameras
- Videos and music
- Programmable toys

**In 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 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 information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

year, and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme.

Our children are exposed to a variety of different computing devices and resources, each designed to support children to develop the skills for computer science and information technology alongside supporting children to ensure digital literacy is upheld throughout. Children have access to iPads, chromebooks and remote control devices to support the expansion of their understanding of the key concepts and four strands of the computing curriculum:

- Computing systems and networks
- Creating Media
- Programming
- Data and Information

**EYFS Overview**

	<b>Experiences</b>	<b>Vocabulary</b>
<b>Nursery</b>	<p>Role play using a range of representative technology for example microwave ovens, phones, kettles, TV remotes in order to demonstrate the purpose of technology.</p> <p>Having photos taken of themselves and the class and looking at them.</p>	<p>On, off.</p> <p>Camera, photo.</p>
<b>Reception</b>	<p>Role play using a range of representative technology for example microwave ovens, phones, TV remotes, kettles in order to recognise purposes for technology at home and at school.</p> <p>Online safety as part of Circle Time to understand what being online may look like, the different feelings they can experience online and how to identify adults who can help.</p> <p>Using technology to take photos and sharing them with the class either on the whiteboard or by printing them and sticking them in a book/on the wall.</p> <p>Using technology to play educational games for example phonics games on the interactive whiteboard.</p> <p>Using programmable toys to understand that technology follows a set of instructions like people do. (Awaiting the arrival of programmable toys).</p>	<p>On, off, buttons, press, swipe.</p> <p>Online, internet, password.</p> <p>iPad, tablet, camera, photo, share, email, upload, print.</p> <p>Drag, touch.</p> <p>Instructions, sequence, steps.</p>

**Key Stage 1 Curriculum Overview**

	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>Year 1 - Unit</b>	<b>Computing systems and networks – Technology around us</b>	<b>Creating media – Digital painting</b>	<b>Programming A – Moving a robot</b>	<b>Data and information – Grouping data</b>	<b>Creating media – Digital writing</b>	<b>Programming B - Programming animations</b>
<b>Learning Objectives</b>	<ul style="list-style-type: none"> <li>-To identify technology</li> <li>-To identify a computer and its main parts</li> <li>-To use a mouse in different ways</li> <li>-To use a keyboard to type on a computer</li> <li>-To use the keyboard to edit text</li> <li>-To create rules for using technology responsibly</li> </ul>	<ul style="list-style-type: none"> <li>-To describe what different freehand tools do</li> <li>-To use the shape tool and the line tools</li> <li>-To make careful choices when painting a digital picture</li> <li>-To explain why I chose the tools I used</li> <li>-To use a computer on my own to paint a picture</li> <li>-To compare painting a picture on a computer and on paper</li> </ul>	<ul style="list-style-type: none"> <li>-To explain what a given command will do</li> <li>-To act out a given word</li> <li>-To combine forwards and backwards commands to make a sequence</li> <li>-To combine four direction commands to make sequences</li> <li>-To plan a simple program</li> <li>-To find more than one solution to a problem</li> </ul>	<ul style="list-style-type: none"> <li>-To label objects</li> <li>-To identify that objects can be counted</li> <li>-To describe objects in different ways</li> <li>-To count objects with the same properties</li> <li>-To compare groups of objects</li> <li>-To answer questions about groups of objects</li> </ul>	<ul style="list-style-type: none"> <li>-To use a computer to write</li> <li>-To add and remove text on a computer</li> <li>-To identify that the look of text can be changed on a computer</li> <li>-To make careful choices when changing text</li> <li>-To explain why I used the tools that I chose</li> <li>-To compare typing on a computer to writing on paper</li> </ul>	<ul style="list-style-type: none"> <li>-To choose a command for a given purpose</li> <li>-To show that a series of commands can be joined together</li> <li>-To identify the effect of changing a value</li> <li>-To explain that each sprite has its own instructions</li> <li>-To design the parts of a project</li> <li>-To use my algorithm to create a program</li> </ul>
<b>Vocabulary</b>	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.	object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.

Year 2 - Unit	Computing systems and networks – IT around us	Creating media – Digital photography	Programming A – Robot algorithms	Data and information – Pictograms	Creating media - Digital music	Programming B - Programming quizzes
<b>Learning Objectives</b>	<ul style="list-style-type: none"> <li>-To recognise the uses and features of information technology</li> <li>-To identify the uses of information technology in the school</li> <li>-To identify information technology beyond school</li> <li>-To explain how information technology helps us</li> <li>-To explain how to use information technology safely</li> <li>-To recognise that choices are made when using information technology</li> </ul>	<ul style="list-style-type: none"> <li>-To use a digital device to take a photograph</li> <li>-To make choices when taking a photograph</li> <li>-To describe what makes a good photograph</li> <li>-To decide how photographs can be improved</li> <li>-To use tools to change an image</li> <li>-To recognise that photos can be changed</li> </ul>	<ul style="list-style-type: none"> <li>-To describe a series of instructions as a sequence</li> <li>-To explain what happens when we change the order of instructions</li> <li>-To use logical reasoning to predict the outcome of a program</li> <li>-To explain that programming projects can have code and artwork</li> <li>-To design an algorithm</li> <li>-To create and debug a program that I have written</li> </ul>	<ul style="list-style-type: none"> <li>-To recognise that we can count and compare objects using tally charts</li> <li>-To recognise that objects can be represented as pictures</li> <li>-To create a pictogram</li> <li>-To select objects by attribute and make comparisons</li> <li>-To recognise that people can be described by attributes</li> <li>-To explain that we can present information using a computer</li> </ul>	<ul style="list-style-type: none"> <li>-To say how music can make us feel</li> <li>-To identify that there are patterns in music</li> <li>-To experiment with sound using a computer</li> <li>-To use a computer to create a musical pattern</li> <li>-To create music for a purpose</li> <li>-To review and refine our computer work</li> </ul>	<ul style="list-style-type: none"> <li>-To explain that a sequence of commands has a start</li> <li>-To explain that a sequence of commands has an outcome</li> <li>-To create a program using a given design</li> <li>-To change a given design</li> <li>-To create a program using my own design</li> <li>-To decide how my project can be improved</li> </ul>
<b>Vocabulary</b>	Information technology (IT), computer, barcode, scanner/scan	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.	device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing,	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute,	instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition	sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug,

			filter, format, framing, lighting,	group, same, different, conclusion, block diagram, sharing		features, evaluate, decomposition, code.
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