Our Computing Knowledge Sequence

Through our curriculum our children acquire and build knowledge and skills in three strands of computing:

1. Computer Science: (Theory and Programming) This deals with the learning statements developing understanding and application of programming and coding.

2. Digital Literacy: This deals with the learning statements developing understanding and application of online communication and safety

3. Information Technology: This deals with the learning statements developing understanding and application of using technology purposefully to create, store, organise, manipulate and retrieve digital content.

In each strand pupils are incrementally taught the concepts and language to develop their knowledge of computing, whilst being provided opportunities to develop their skills through increasingly complex or mature activities across the Key Stages.

		Early Years Framework		
		Computer Science	Digital Literacy	Information Technology
Early Years		The distinct section on Technology has been removed from the new Early Years framework on the understanding that children now have very high levels of access to ICT such as phones and tablets. ICT is understood as a way that children may record and develop their play and thinking switching fluidly between first hand and on-screen experiences In EY children are provide ICT opportunities to support the 2020 development matters guidance and work closely with parents to understand the ICT opportunities children have at home. Opportunities will support and enhance Development Matters guidance such as; 'Fine Motor Skills - Begin to show accuracy and care when drawing' - Children may move fluidly between using traditional pencil and digital tools to draw and make marks.		

		National Curriculum		
		Computer Science	Digital Literacy	Information Technology
Key Stage 1		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	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.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Key Stage 2		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	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 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 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

Federation of Follifoot & Spofforth CE Primary Schools

Computing Curriculum Progression Document

The tables below demonstrate the core knowledge for each year group.

This is not the entirety of the computing curriculum delivered; rather the expected retained knowledge that each child will leave the year group with.

Years 1&2	Years 3&4	Years 5&6
- Knows what an algorithm is - Knows computers need precise instructions - Knows simple algorithms which do not rely on text to achieve a given goal - Knows all software is programmed & without it the computer will no execute anything - Knows that programs respond to inputs in order to carry out actions - Knows to think logically to sequence inputs - Knows how to predict outputs - Knows how to find and corrects simple errors (debugging)	- Knows how to correctly use a keyboard, recognising and using how programs specify the function of a general computer - Knows algorithms which include repetition (loops) - Knows algorithms to achieve given goals - Knows how to predict outputs, showing an awareness of inputs and sequence - Knows how to identify & correct errors (debugging) - Knows that computers can be linked to networks, including the internet - Knows that different solutions exist to solve the same problem	- Knows algorithms that include selection (if, then, else) - Knows how to use reasoning to predict outcomes of selections choices - Knows to use variables to achieve a given goal - Knows the roles of hardware & software, within a computer system - Knows how to use logical reasoning to predict the outcomes of complex algorithms - Knows how to debug complex algorithms

Federation of Follifoot & Spofforth CE Primary Schools

Computing Curriculum Progression Document

The tables below demonstrate the core knowledge for each year group. This is not the entirety of the computing curriculum delivered; rather the expected retained knowledge that each child will leave the year group with.

Year 1&2	Years 3&4	Years 5&6
- Knows what personal information is - Knows that personal information should be kept private and why - Knows what to do when contacted online or concerned about online content - Knows common uses of information technology in the classroom - Knows common uses of information technology beyond the classroom - Knows class login and password for laptops and PC's - Knows the importance of communicating safely and respectfully online - Knows a range of ways to report worrying content or contact online	- Knows personal information is private and knows how to keep it safe - Knows how to create a secure password - Knows what online unacceptable and acceptable behaviour is - Knows a range of ways to report concerns online - Shows acceptable use online behaviour - Knows how to repurpose digital content for a given audience - Knows the internet provides different services - Knows common online uses - email, web searching, file transfer, blogging and video	- Knows examples of unacceptable & acceptable behaviour online using empathy - Knows images can be manipulated to be untruthful - Knows how technology can have a positive and negative impact on self esteem - Knows what a digital footprint is - Knows ways to report concerns of content or feelings cause by digital content - Knows strategies to manage use of technologies in their lives - Knows how to question what truthful or manipulative digital content is - Knows what technologies wired & wireless, connect computers together (home, school, wider world)

Federation of Follifoot & Spofforth CE Primary Schools

Computing Curriculum Progression Document

Information Technology: This deals with the learning statements developing understanding and application of using technology purposefully to create, store, organise, manipulate and retrieve digital content.

The tables below demonstrate the core knowledge for each year group. This is not the entirety of the computing curriculum delivered; rather the expected retained knowledge that each child will leave the year group with.

Year 1&2	Years 3&4	Years 5&6
- Knows that digital content can be presented in many ways - Knows how to use software to create, edit & store digital content - Knows why content needs to be appropriately named and organised - Knows and is able to correctly use keyboard, recognising and using: - Spacebar - Return/ enter - Backspace/ delete - Shift + 2/' = @ - Shift + letter = capital letter - Navigate around a text using tracking pad/ arrow keys - Knows a range of digital devices can be considered a computer - Knows and can use a range of input and output devices - Knows how to navigate the web to find commonly used sites - Knows how to name and organises digital content - Knows what 'Cloud Storage' is - Knows how to navigate to files to retrieve saved content - With support knows how to type, edit and send a digital message - Knows how to highlight text using the tracking pad and/or shift + arrows - Knows how to change the font size and style	- Knows the difference between data and information - Knows how to use a variety of software to manipulate & present digital content (data & information - Knows how to interpret data and information presented - Uses single searches for information - Knows how to change the colour and outline of text - Knows how to use bold, underline & italics tools - Knows how to add a text box and change the colour and outline of it - Knows how to use transitions & animations appropriately in slides - Knows how to use a search engine to gather information for a purpose - Knows how to use digital content to achieve a given goal by combining software packages & internet services to communicate with a wither audience - Knows how to plan and create a short animated sequence to communicate a story, using a story board - Knows how to format text to have different text alignments - Knows how to insert images from the internet into digital content - Types mostly using two hands - Knows and is able to correctly use keyboard, recognising and using: Can use shift + / for a question mark Can use shift + 2 for inverted commas	- Knows how to analyse and evaluate data & information and recognise that poor quality data leads to unreliable results & inaccurate conclusions - Knows and recognises the audience when creating digital content - Knows how to use a variety of software to manipulate & present digital content - Knows features of good design in print & electronic texts - Knows how to collect & present data & information digitally - Knows how to use shift + c to copy content - Knows how to use shift + v to paste content - Knows how to create nonlinear documents by including hyperlinks - Knows how to use bullet points to organise text - Knows how to insert headers and footers into a document - Knows how to collect, organise and present data and information in digital content - Knows how to create digital content to achieve a given goal through combining software packages to communicate with a wider audience