Pulford School Computing Progression Map & Intent, Implementation and Impact

Intent

Pupils must be able to recognise and adapt to a society which is served by an ever-increasing use of IT related processes. To enable pupils to prepare for this, all pupils must have equal and appropriate access to IT resources. We deliver this through a clear and effective computing scheme of work which provides coverage in line with the National Curriculum. Lesson content allows for a broad, deep understanding of computing and how it links to children's lives. It offers a range of opportunities for consolidation, challenge and variety. Children will develop analytical problem-solving skills and learn to evaluate and apply information technology, enabling them to become responsible, competent, confident and creative users of information technology.

There is a need for pupils:

- To develop a set of coherent IT skills so that they may, in time, be able to use IT effectively, creatively and autonomously across the whole range of the curriculum.
- To be able to take advantage of IT opportunities to promote learning outside the classroom.
- To develop an awareness of their personal responsibilities when using IT, to access wider resources and when communicating with others.
- To use information technology to create programs, systems and a range of content.
- To be digitally literate

Implementation

EYFS

The early years statutory framework (Sept 21) does not include a formal ICT early learning goal or educational programme. However, we have implemented guided sessions in which the children can experience and develop basic computing skills on our devices. From the Autumn term onwards, the children also have experience of iPads for phonics and basic maths skills. In the spring and summer terms, the children also have experience of ipads for phonics and basic maths skills. To assist in the transition to KS1, Foundation Stage children are taught basic keyboard skills of typing their first name, typing short words, such as cat, and where to find the numbers 0-10.

As part of the ELG Personal, Social and Emotional Development, children will learn how be confident to try new activities and show independence, resilience and perseverance in the face of challenge which will support them as they transition to formal ICT lessons.

KS1/2

In KS1 and KS2 Computing is taught weekly using a mixture of schemes and stand-alone technology to ensure full coverage of the National Curriculum. Across both KS1 and KS2, a rolling two-year programme is in place. Progression is carefully planned to ensure each year group builds on previous knowledge and skills taught. KS1 includes a variety of programmes,

such as Espresso Coding, Purple Mash and Bee Bots, with a focus on digital literacy, safety and coding, to cover the requirement of the National Curriculum.
In LKS2 we also use a range of programmes across Espresso, Purple Mash and Rising Stars to cover national curriculum requirements. Units have been carefully mapped out across a 2-year cycle to develop key skills before the children move to UKS2 for the more demanding requirements of the KS2 curriculum.

Progressive activities are planned for each year group to cover:

- Computer skills
- Internet research and communication
- Online Safety
- Drawing and desktop publishing
- Programming
- Word-processing
- Presentation skills
- Digital Photography

Pupils are encouraged to use and apply the skills taught in other curriculum areas. The children have access to classroom computers, laptops and tablets. We have also distributed a set of class iPads to seed further opportunities for computing away from discrete lessons.

Impact

Key Stage One Children:

- Have an understanding of algorithms
- Are able to debug simple software
- Know how to save, store and find work
- Take and enhance digital images
- Present using basic typing, editing and digital drawing skills
- Are aware of how some ICT is useful outside of school
- Are aware of the basic rules regarding safety online

Key Stage Two Children:

- Design, write and debug programmes
- Are able to complete repetitive work
- Explain how some simple algorithms work. They should also be able to detect and correct any errors
- Have an understanding of computer networking
- Create and perform presentations
- Network and communicate safely using emails
- Safely and effectively use search engines
- Are able to use a range of devices

	Year 1	Year 2	Year 3	Year 4	Year 5/6
Understanding Technology	Pupils recognise and can give examples of common uses of information technology they encounter in their daily routine.	Pupils recognise common uses of information technology beyond school, including those which they don't frequently encounter in their daily routine.	Pupils develop an understanding of how computers can be linked to form local networks. Pupils recognise and describe some of the services offered by the Internet, especially those used for communication and collaboration.	Pupils develop an understanding of how computers can be linked to form local networks. Pupils recognise and describe some of the services offered by the Internet, especially those used for communication and collaboration.	Understands why and when computers are used; knows that computers collect data from various input devices; understands the difference between hardware and application software and their roles within a computer system.
Programming	Pupils create, debug and implement instruction (simple algorithms) as programs on a range of digital devices. Pupils understand that digital devices follow precise and unambiguous instructions. Pupils understand that digital devices simulate real situations.	Pupils understand that algorithms are implemented as programs on digital devices. Pupils create and debug programs to achieve specific goals. Pupils use the principles of logical reasoning to plan and predict the behaviour of simple programs. Pupils solve real and imaginary problems on and off screen.	Pupils create programs to accomplish specific goals: - using an increasing range of digital devices and applications. - exploring and understanding the impact of changing instructions. - using sequence and repetition - decomposing problems both on and off screen - using the principles of logical reasoning in order to resolve problems.	Pupils create and debug programs. They can: - use sequence and repetition. - refine algorithms to improve efficiency - control or simulate physical systems Pupils begin to explore and notice the similarities and differences between programming languages and use this knowledge to help them create and debug programs efficiently.	Designs, writes and debugs modular programmes using procedures; creates programmes that implement algorithms to achieve given goals.
Digital Literacy	Pupils increasingly use a range of technology to enquire with purpose, accessing and creating digital content such as still and moving images, video, audio and text. With appropriate levels of support, pupils collect data (e.g. numerical, research facts etc.) which they are able to retrieve, store and manipulate.	They can present and communicate their learning to others in a variety of ways. With support, pupils are beginning to access and retrieve online content, making appropriate choices to achieve specific goals.	Pupils are confident and creative users of technology. They are beginning to make informed choices about the appropriateness of digital content they access and create, using an increasing range of digital resources and devices Pupils identify, collect and manipulate different types of data (e.g. numerical data from science experiments, words, still and moving images etc.) which they present as information, showing a greater awareness of purpose and audience. *Continued in Y4*	*Continued from Y3* Pupils become more discerning in their choice of search technology to accomplish specific goals. They understand the need for efficiency when conducting searches, choosing keywords carefully.	Continuation of LKS2: Use technology to present their work, showing a degree of skill and using advanced software. To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data. Recognise that the internet may contain material that is irrelevant, bias and inappropriate. Save and use pictures, text and sound recognising copyright issues
E-Safety	Pupils understand that information about themselves may be personal and they can choose who to share it with. With support, pupils can manage can their online activity safely, recognising which information should be kept private. They can explain what it means to stay safe online and older pupils identify some of the potential risks associated with the online world.	They communicate safely and respectfully using a range of digital devices, making links to their behaviour in the physical world. Pupils start to develop strategies for managing concerns about online content or contact; seeking help and support when needed.	Pupils, review their online activity, including maintaining amending online profiles, communication channels and publishing spaces to ensure they do not inadvertently reveal personal details. Pupils show respect for content created by others by acknowledging sources, commenting respectfully and responsibly on other people's work and respecting privacy. They are discriminating about what they share and whether any permission is needed to do so. *Continued in Y4*	*Continued from Y3:* Pupils can identify a range of potential online risks including inappropriate contact or content and can identify ways of seeking support and reporting concerns. They exercise caution when receiving attachments and following web links contained in messages.	Demonstrates responsible use of technologies and online services, and know a range of ways to report concerns. Recognises what is acceptable and unacceptable behaviour when using technologies and online services.