

Computing Overview

EYFS	Use various technologies and physical and onscreen resources to investigate the world and compare them (e.g. continuous use of IWB and computer to find information, SETPOINT senses workshop). They increasingly know who to talk to if something they see makes them worried or uncomfortable. (Continuously throughout the year in PSED sessions).		
	Children explore different ways in which images can be captured and viewed (e.g. in the woodland area using cameras and iPads to capture pictures and record videos when learning about the changing seasons).		
	Children build the early foundation for programming, by investigating technologies and digital toys in the classroom. They begin to use simple programming language to play with and control simple onscreen and physical devices (e.g. Using BeeBots when looking at maps and routes).		
	Children explore ways we use technology to write and draw, using a broad range of devices and input tools (e.g. using the IWB and iPads to complete activities). They develop knowledge of the keyboard through regular links to phonics (e.g. using the IWB and iPads in CIL time to further their understanding of computing). They begin to type their name (e.g. when using the iPad etc when working across the curriculum).		
Key stage	Learning theme	Key idea	Mapping to new Computing Curriculum
KS1	Let's create (Year 1 Autumn)	Children begin to explore digital texts, using varied devices and software to create digital content. They investigate differences between input and output and hardware and software. They explore the idea of a network related to computers at home and school, logging on to their area with support. They use unplugged computing approaches to explore the devices they use. They consider their safety online.	1.iii 1.iv 1.v 1.vi
	Discovering programming (Year 1 Spring)	Children name the main external parts of a computer and explore how they work together. They explore programmable devices relating their understanding of inputs and outputs to natural and digital systems. They use unplugged approaches and simple onscreen and physical devices to develop understanding of algorithms and programming,	1.i 1.ii 1.iii 1.v 1.vi
	Starting research (Year 2 Summer)	Children develop understanding of researching using non-digital and digital sources, including the World Wide Web. They understand the need to check their research results. They present their research in a variety of ways such as charts, graphs and mind maps. They begin to respect copyright and ownership and know who to talk to if they are worried.	1.iv 1.v 1.vi
	Getting creative (Year 2 Spring)	Children build understanding of digital texts. They use varied devices and software with increased precision to create digital content. They revisit differences between input and output and hardware and software. They develop understanding of networks related to computers at home and school, logging on to their areas. They build understanding of algorithms using unplugged approaches. They develop online safety practice.	1.i 1.ii 1.iv 1.v 1.vi
	Messages and virtual worlds (Year 2 Autumn)	Children explore ways of sending messages using digital and non-digital systems. They investigate the history of messages. They send and receive emails and understand how people can message on blogs. They explore simple virtual worlds. They develop online safety practice understanding the need to keep personal information private.	1.i 1.iii 1.iv 1.v 1.vi
	Visual information (Year 1 Summer)	Children investigate how we derive information from different sources. They create graphs and charts and make general statements. They use dataloggers to explore environmental conditions. They organise objects using branching databases. They explore how computers might sort objects, noting the process of Repeat. They build on their online safety practice.	1.iii 1.iv 1.v 1.vi

Key stage	Learning theme	Key idea	Mapping to 2014 Computing Curriculum
Lower KS2	Accuracy counts (Year 3 Summer)	Children discuss computer networks including the internet and the services it offers. They explore how search engines work and what influences results, evaluating search engines and using sources. They learn about the threat from computer viruses and develop understanding of intellectual property and relate this to their own content. They use spreadsheet software to create graphs and to explore number patterns.	2.iv 2.v 2.vi 2.vii
	Authoring (Year 4 Autumn)	Children investigate computing storage capacities and ways of saving data. They develop understanding of the school network and operating systems. They use varied resources to create digital content, creating and manipulating images and words. They select and use software to create non-linear content for specific audiences and objectives.	2.v 2.vi 2.vii
	Bringing images to life (Year 3 Autumn)	Children develop understanding of digital images. They transform and edit images, respecting copyright and ownership. They explore stop animation creating their own versions. They produce programmed animations, using sequence, repeat and selection.	2.i 2.ii 2.iii 2.vi 2.vii
	Introduction to coding (Year 4 Spring)	Children to begin to create, test, debug and refine simple algorithms and begin to understand the related programs using sequence, selection, repetition and variables.	2.iv 2.vi 2.vii
	Keeping informed (Year 4 Summer)	Children understand the difference between data and information. They use sensors, dataloggers and other tools as part of their investigations. They use branching and flat-file databases to enter, organise and search data, deriving information which they present in different forms.	2.i 2.ii 2.iii 2.vi 2.vii
	Programming and games (Year 3 Spring)	Children explore simulations, investigating the structure and exploring how they might be programmed. They begin to note that abstraction can simplify them. They decompose tasks, creating and debug algorithms and understanding how algorithms support the programming process. They write, test, debug and refine programs to achieve specific objectives, using sequence, repetition and procedures. They explore selection in digital and natural systems.	2.i 2.ii 2.iii 2.vi 2.vii
Upper KS2	Data matters (Year 5 Autumn)	Children investigate the concept of "big data" and its use in the world. They review file types and protection. They explore binary form and develop understanding of computer networks. They search more efficiently and investigate their digital footprints, building safe and responsible use of online spaces. They create and search flat-file databases, developing accuracy and efficiency.	2.iii 2.iv 2.v 2.vi 2.vii
	Information models (Year 5 Spring)	Children develop expertise in spreadsheets, using both formulae and functions. They import and analyse data collected on dataloggers. They use conditional formatting to vary the format of cells and create tools for specific user needs. They create models, identifying variables and using what-if modelling.	2.i 2.ii 2.vi 2.vii
	Morphing image (Year 6 Summer)	Children use 3D graphical modelling to create and explore objects. They review operating systems. They evaluate films and animations, going on to create live film or animations for specific audiences. They demonstrate their understanding of copyright and ownership.	2.vi 2.vii
	Robotics and systems (Coding) (Year 6 Autumn)	Children investigate automated systems in the wider world and the use of sensors within them. They consider natural systems and use abstraction to represent them. They create, test, debug and refine algorithms and the related programs using sequence, selection, repetition and variables. They program physical devices, controlling inputs and outputs, relating to their study of automated systems.	2.i 2.ii 2.iii 2.vi 2.vii
	Sound works (Year 5 Summer)	Children review how digital sound is used in the world and how it has developed over time. They create multi-track sound recordings for specific audiences, incorporating different content and demonstrating their understanding of the rules for copyright. They use programming languages to create their own sound clips.	2.vi 2.vii

	<p>Staying connected (Year 6 Spring)</p>	<p>Children develop safe and appropriate use of online technologies, considering what they can use and what information is shared about them. They create blogs for collaborative projects, checking and uploading digital content. They build a class wiki, taking editorial responsibility for their work. They know the school's online safety rules and are proactive in encouraging other children to keep safe online.</p>	<p>2.iv 2.v 2.vi 2.vii</p>
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