Pinfold Primary Forest School Curriculum Documents

PROGRESSION IN COMPUTING: KNOWLEDGE MILESTONES - SKILLS MILESTONES (YEAR BY YEAR)

	EYFS	YEAR 1	YEAR 2	LOWER KEY STAGE 2	YEAR 5	YEAR 6
TEXT & MULTIMEDIA	<u>The most relevant statements for computing are taken from the following areas of learning:</u> • Personal, Social and Emotional Development • Physical Development • Understanding the World • Expressive Arts and Design **PSED** * Show resilience and perseverance in the face of a challenge. **PD** * Develop their fine motor skills so that they can use a range of tools competently, safely and confidently. * Know and talk about the different factors that support their overall health and wellbeing – sensible amounts of 'screen time'. **EAD** * Explore, use and refine a variety of artistic effective to express their ideas and feelings. **ELGs** **PSED Managing Self** * Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. * Explain the reasons for rules, know right from wrong and try to behave accordingly. **EAD Creating with Materials** * Safely use and explore and variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	* Work with others, and with support, to contribute to a digital class resource which includes text, graphic and sound.	* Generate their own work, with help, combining text, graphics and sound. * Save, retrieve and edit their work.	* Record and present information integrating text, graphics, sound, video or hyperlinks as appropriate e.g. for on-screen presentations. * Show awareness of purpose and intended audience.	* Use advanced tools in word processing to create quality presentations appropriate for a chosen audience.	* Refine use of multimedia effects to convey meaning rather than impress.
DIGITAL IMAGES SOUND & MUSIC (INCLUDING RECORDING)		* Use a range of simple tools in a paint package / image manipulation software to create / modify a picture. * Chose suitable sounds from a bank to express ideas.	* Use a range of tools in a paint package / image manipulation software to create / modify a picture to communicate an idea. * Create a simple animation to tell a story. * Compose music from given icons. * Produce a simple presentation incorporating sounds captured or created.	* Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea. * Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own.	* Make a short film / animation from images (still and / or moving) that they have sourced, captured or created. * Create multiple track compositions that contain a variety of sounds.	* Use images that they have sourced / captured / manipulated as part of a bigger project (e.g. presentation or document). * Create and share more sophisticated podcasts and consider the purpose and effect on the intended audience.
SAFE RESEARCH & ELECTRONIC COMMUNICATION (Applying E-Safety principles to the work.) SEE SEPARATE RSE ONLINE SAFETY PROGRESSION & MILESTONES DOCUMENT FOR FULL DETAILS		* Contribute ideas to a class email to another class/teacher/school etc… * Begin to understand the need to abide by school e-safety rules. * As a class, children explore information from a variety of sources e.g. electronic. * Children are aware of different forms of information. * Begin to understand the need to abide by school e-safety rules.	* Work collaboratively by email to share and request information of another class or story character etc… * Begin to understand the need to abide by school e-safety rules. * Children use a search engine to find specific, relevant information to use in a presentation for a topic. * They can bookmark, save and retrieve their work. * Begin to understand the need to abide by school e-safety rules.	* Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. * Children use information or resources they have found. * Work effectively, and increasingly independently, within the school e-safety rules and expectations. * Share ICT work electronically by email, VLE or uploading to authorized school linked sites.	* Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. * They show an understanding that not all information on the internet is accurate. * Work effectively, and increasingly independently, within the school e-safety rules and expectations. * Share ICT work electronically by email, VLE or uploading to authorized school linked sites.	* Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. * Use appropriate methods to validate information and check for bias and accuracy. * Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate. * Share ICT work electronically by email, VLE or uploading to authorized school linked sites.
CONTROL (ALGORITHMS)		* Control simple everyday devices to produce different outcomes.	* Control a device, on and off screen, making predictions about the effects of programming.	* Children can type a short sequence of instructions, and plan ahead, when programming devices.	* Independently create sequences of commands to control devices (using inputs and outputs). * Design, build, test, evaluation and modify systems – ensuring it meets purpose.	

PROGRESSION IN COMPUTING: KNOWLEDGE MILESTONES - SKILLS MILESTONES (YEAR BY YEAR)

	EYFS	YEAR 1	YEAR 2	LOWER KEY STAGE 2	YEAR 5	YEAR 6
HANDLING INFORMATION/DATA, MODELLING & SIMULATIONS	The most relevant statements for computing are taken from the following areas of learning: • Personal, Social and Emotional Development • Physical Development • Understanding the World • Expressive Arts and Design **PSED** * Show resilience and perseverance in the face of a challenge. **PD** * Develop their fine motor skills so that they can use a range of tools competently, safely and confidently. * Know and talk about the different factors that support their overall health and wellbeing – sensible amounts of 'screen time'. **EAD** * Explore, use and refine a variety of artistic effective to express their ideas and feelings.		* Use a graphing package to collect, organise and classify data. * Select appropriate tools to create a graph and answer questions. * Enter information into a simple database or word processor and use it to answer questions. * Children save, retrieve and edit their work. * Children can play an adventure game, or similar, using a simple simulation, making choices and observing the results. * Children understand that computers can replicate real life events and explore contexts not otherwise possible.	* Children use a simple database (which has been set up for them) to enter and save and save information on a given subject. * Children follow simple lines of enquiry to search their data for their own purposes. * Children talk about their experiences of using ICT to process data compared with other methods. * Use models and simulations to find information and solve problems. * Make simple use of a spreadsheet to store data and produce graphs.	* Children work as a class or group to create a data collection sheet and use it to setup a simple database to answer questions. * Enter information and interrogate it (by searching, sorting, graphing etc). * Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered. * Set up and use a spreadsheet model to explore patterns and relationships and make predictions. * Children know how to enter simple formulae to assist their spreadsheet work.	* Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings. * The need for accuracy is demonstrated and strategies for spotting implausible data are evident. * Children can talk about issues relating to data protection and the need for data security in the world at large (e.g. health, police databases). * Set up and use their own spreadsheet, which contains formulae to investigate questions and provide answers. * Understand the need for accuracy when creating formulae and check by questioning the reasonable nature of their results. * Relate their use of spreadsheets to model situations in the wider world.
DATA LOGGING				* Begin to use a data logger to sense physical data (sound, light, temperature).	* Use a data logger confidently to capture continuous or intermittent data readings. * Interpret results and use these in investigations. * See the advantages of using ICT to collect data that might otherwise be problematic.	* Children can identify their own opportunities for data logging and carry out their own experiments. * Children check and questions results and are able to spot trends in data and identify when problems may have occurred.
UNDERSTANDING TECHNOLOGIES	**ELGs** **PSED Managing Self** * Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. * Explain the reasons for rules, know right from wrong and try to behave accordingly. **EAD Creating with Materials** * Safely use and explore and variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	* Show an awareness of the range of devices and tools they encounter in everyday life. * Show an awareness that what they create on a computer or tablet device can be shown to others using another device (e.g. printer, projector).	* Show an awareness of a range of inputs to a computer (IWB, mouse touch screen, microphone, keyboard, etc.) * Begin to show an awareness that computers can be linked to share resources. * Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the back/forward button, hyperlinks).	* Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made. * Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents). * Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details). * Show an awareness that not all the resources/tools they use are resident on the device they are using. * Begin to show an understanding of URLs.	* Make choices about the devices and tools they use for specific purposes and explain them in relation to the context. * Begin to show an awareness of specific tools used in working life. * Show an understanding of the school network and how it links computers to resources in school and beyond. * Compare this with other networks they may encounter at home or in the wider world (e.g. banks). * Perform a search using different search engines and check the results against each other, explaining why they might be different. * Show an awareness of the need for accuracy in spelling and syntax to search effectively.	* Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. * Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices. * Show an understanding of how filtering and monitoring tools affect their use of the school network and internet and compare this with their experience of access outside school. * Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication.
VOCABULARY	Fine motor skills, paint, IPad, finger, early, light, shines Record, photo, film, nature, science, plants, trees, flowers Collage, seaside, art, design, create	Explore, information, variety, sources, electronic, forms, abide, e-safety, rules Simple, range, tools, paint, package, image, software, create, modify, picture Support, contribute, digital, class, resource, text, graphic, sound, record	Paint, package, image, modify, picture, communicate, idea, animation, story Graphic, package, collect, organize, classify, data, graph, database, word processor, save, edit, retrieve Generate, combining, text, graphics, sound, retrieve, edit, compose, icons, sound, capture.	Manipulate, digital, images, tools, appropriate, software, convey, specific, mood Create, simple, podcast, importing, existing, music, sound, effects, recording Database, chart, spreadsheet, data, cell, copy, function, graph, information, collect, bar chart	Record, present, information, integrating, text, graphics, sounds, video, hyperlinks, purpose, intent Models, simulations, information, problem solving, data, produce, graphics Action, bug, design mode, code design, event, command, selection, object, repeat, timer alert, input, output, simulation, variable, algorithm, debug, debugging	Problem solving, procedure, predict test, modify, control, devices, refine, programming, software Model, explore, patterns, relationships, predictions, assist, formulae Font size/type/colour, highlight, select all, frame, copy, cut, paste, insert, align left, align right, centre, re-size/scale, graphics, search engines, internet