

Furneux Pelham School – Knowledge and Skills Progression for *Computing*



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Online Safety</p> <p>KS1 Children can use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p>KS2 Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact.</p>							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Online Safety</p> <p>Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Understand that you may have to put your name/password into the device to retrieve your own files</p> <p>Understand that you can connect with others via a device</p>	<p>identify what things count as personal information;</p> <p>identify what is appropriate and inappropriate behaviour on the internet;</p> <p>agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;</p> <p>seek help from an adult when they see something that is unexpected or worrying;</p> <p>demonstrate how to safely open and close applications and log on and log off from websites;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet.</p>	<p>identify what things count as personal information;</p> <p>identify what is appropriate and inappropriate behaviour on the internet;</p> <p>agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;</p> <p>seek help from an adult when they see something that is unexpected or worrying;</p> <p>demonstrate how to safely open and close applications and log on and log off from websites;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety,</p>	<p>protect their password and other personal information;</p> <p>reflect on their own digital footprint and behaviour online;</p> <p>identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying;</p> <p>agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;</p> <p>seek help from an adult when they see something that is unexpected or worrying;</p> <p>demonstrate understanding of age-appropriate websites and adverts;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety,</p>	<p>protect their password and other personal information;</p> <p>be a good online citizen and friend;</p> <p>judge what sort of privacy settings might be relevant to reducing different risks;</p> <p>seek help from an adult when they see something that is unexpected or worrying;</p> <p>discuss scenarios involving online risk;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, anonymous, victim, fraud/fraudulent, policy, private/personal</p>			

				personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public			
<p>Algorithms and Programming KS1 Computing National Curriculum Children understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. They create, debug and use logical reasoning to predict the behaviour of simple programs.</p> <p>KS2 Computing National Curriculum Children design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; they solve problems by decomposing them into smaller parts. They use sequence, selection, and repetition in programs and work with variables and various forms of input and output. They use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algorithms and Programming	<p>Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Experience digital devices with an input/output.</p> <p>Change the output of a device/toy by altering the input</p>	<p>give commands one at a time to control direction and movement, including straight, forwards, backwards, turn;</p> <p>give a set of instructions to follow and predict what will happen;</p> <p>use key vocabulary:: algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise</p> <p>*Beebots, real and app</p>	<p>control the nature of events: repeat, loops, single events and add and delete features;</p> <p>improve/change their sequence of commands by debugging</p> <p>use key vocabulary from Y1 plus: blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink. *Beebots, Lego fix the factory</p>	<p>use logical thinking to solve an open-ended problem by breaking it up into smaller parts;</p> <p>write a program, putting commands into a sequence to achieve a specific outcome;</p> <p>give a set of instructions to follow and predict what will happen;</p> <p>use key vocabulary: decompose, decomposing, logical sequence, flowchart,</p>	<p>keep testing a program and recognise when it needs to be debugged;</p> <p>use variables to create an effect, e.g. repetition, if, when, loop; keep and adjust scoring system to a game</p> <p>use key vocabulary: from Y3 plus:, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable</p> <p>*Scratch</p>	<p>decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;</p> <p>follow a sequence of instructions, e.g. in a flowchart and modify a flowchart using symbols;</p> <p>keep testing a program and recognise when it needs to be debugged;</p>	<p>use external triggers and infinite loops to demonstrate control; (eg Broadcast in Scratch)</p> <p>use conditional statements and edit variables; (eg Multi-level games)</p> <p>use key vocabulary: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program</p> <p>*Scratch, Crumbles</p>

				sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, *Scratch		use key vocabulary: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, *Scratch, Crumbles	
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Technology in our Lives

KS1 Computing National Curriculum

Children recognise common uses of technology beyond school. They use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

KS2 Computing National Curriculum

Children 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. They use search technologies effectively, appreciate how results are selected and ranked, and are discerning in evaluating digital content.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technology in our Lives	Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Experience research via whole class activities	recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping; use links to websites to find information;	recognise age-appropriate websites; use safe search filters; use key vocabulary: filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure	explain ways to communicate with others online; describe the world wide web as the part of the internet that contains websites; add websites to a favourites list;	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)	Identify the difference between the internet and the World Wide Web search for information using appropriate websites and advanced search	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 strategies to check the reliability

	Know that information and a range of services can be found online	use key vocabulary: filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure		use search tools to find and use an appropriate website and content; use key vocabulary to demonstrate knowledge and understanding in this strand: filter, Google, search engine, image, keyboard, email, subject, address, communicate, sender, safe, secure, internet, world wide web, social media	use strategies to improve results when searching online;	functions within Google; talk about the way search results are selected and ranked; check the reliability of a website, including the photos on site; use key vocabulary:: world wide web, search, search engine, advanced search, results, Google, browser, terms of use, bias, authority, citation, plagiarism, source, website, secure, https, site, domain, website, browser, address bar.	of information (cross-check with another source such as books); tell you about copyright and acknowledge the sources of information;
<p>Multimedia KS1 Computing National Curriculum Children use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>KS2 Computing National Curriculum Children 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.</p>							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

<p>Text and Images</p>	<p>Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Experience using the keyboard to enter own name and print document</p> <p>Experience using the keyboard and mouse to move a character around a game</p>	<p>Use the mousepad to move the cursor to desired place</p> <p>Use left click /double click to control the cursor</p> <p>add text strings having first selected colour and size</p> <p>use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape;</p> <p>use key vocabulary: paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present</p>	<p>add text boxes and images, show and hide objects and images;</p> <p>Use the mouse to block text in order to change size, font, colour after typing</p> <p>use applications and devices in order to communicate ideas, work, messages and demonstrate control</p> <p>save, retrieve and organise work</p> <p>use key vocabulary: undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present</p>	<p>Use right click functions on mouse pad</p> <p>create different effects with different technological tools, demonstrating control;</p> <p>use applications and devices in order to communicate ideas, work, and messages;</p> <p>save, retrieve and evaluate work, making amendments;</p> <p>use key vocabulary: draw, object, shape, line, line colour, fill colour, group, ungroup, font, size, text box, format, image, wrap text, plan, link, image, object, link, hyperlink, minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, snipping tool, shift, undo, redo, menu, dictionary, highlight, cursor, toolbar, spellcheck</p>	<p>insert a picture/text/graph/hyperlink from the internet or a personal file;</p> <p>use appropriate keyboard commands to amend text on a device; (Ctrl shortcuts</p> <p>use key vocabulary: draw, object, shape, line, line colour, fill colour, group, ungroup, font, size, text box, format, image, wrap text, plan, link, image, object, link, hyperlink, minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, snipping tool, shift, undo, redo, menu, dictionary, highlight, cursor, toolbar, spellcheck</p>	<p>use the skills already developed to create content using unfamiliar technology;</p> <p>select, use and combine the appropriate technology tools to create effect;</p> <p>review and improve their own work and support others to improve their work;</p> <p>save, retrieve and evaluate their work,making amendments;</p> <p>insert a picture/text/graph/hyperlink from the internet or personal file;</p> <p>use key vocabulary: window, layout, text, font, colour, format, heading, hyperlink, 2D shape, 3D shape, orbit, pan, zoom, eraser, dimension, measurement, guide</p>	<p>use the skills already developed to create content using unfamiliar technology;</p> <p>select, use and combine the appropriate technology tools to create effect;</p> <p>review and improve their own work and support others to improve their work;</p> <p>save, retrieve and evaluate their work,making amendments;</p> <p>insert a picture/text/graph/hyperlink from the internet or personal file;</p> <p>use key vocabulary: window, layout, text, font, colour, format, heading, hyperlink, 2D shape, 3D shape, orbit, pan, zoom, eraser, dimension, measurement, guide</p>
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<p>Sound and Video</p>	<p>Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Experience recording own voice and hearing the playback.</p> <p>Experience videos of self and ability to re-watch</p>	<p>use software to record sounds; change sounds recorded; save, retrieve and organise work;</p>	<p>use software to record sounds; change sounds recorded; save, retrieve and organise work;</p>	<p>use software to record, create and edit sounds and capture still images; change recorded sounds, volume, duration and pauses; crop and arrange still images to create a short film</p> <p>use key vocabulary: audio, sound, video, still image,, flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame.</p> <p>*iPad Puppet Edu, iMovie</p>	<p>use software to capture video for a purpose; crop and arrange clips to create a short film;</p> <p>plan an animation and move items within each animation for playback;</p> <p>use key vocabulary: audio, sound, video, movie, embed, link, file format, animate, animation, still image, zoetrope, , flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame.</p> <p>*iPad Puppet Edu,iMovie</p>	<p>collect audio from a variety of resources including own recordings and internet clips; use a digital device to record sounds and present audio;</p> <p>publish their animation and use a movie editing package to edit/refine and add titles;</p> <p>use key vocabulary: audio, record, edit, play stop, skip, waveform, input, output, record, edit, play podcast, digital content, downloadable, backing track, voiceover, mute, gain, production, post-production, documentary, project, evaluation, screening, ceremony, upload</p> <p>*iPad apps, iMovie</p>	<p>trim, arrange and edit audio levels to improve quality;</p> <p>publish their animation and use a movie editing package to edit/refine and add titles and narration.</p> <p>Experiment with live audio and voice over audio;</p> <p>use key vocabulary: audio, record, edit, play stop, skip, waveform, input, output, record, edit, play podcast, digital content, downloadable, backing track, voiceover, mute, gain, production, post-production, documentary, project, evaluation, screening, ceremony, upload</p> <p>*iPad apps, iMovie</p>
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Data Handling							
KS2 Computing National Curriculum							
Children 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.							
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				<p>talk about the different ways data can be organised;</p> <p>search a ready-made database to answer questions;</p> <p>use key vocabulary: Google Docs, insert, table.</p> <p>*Google docs, forms</p>	<p>sort and organise information to use in other ways;</p> <p>use key vocabulary: Google Docs, insert, table., spreadsheet, graph, ascending, descending, formula</p> <p>*Google docs, forms, Excel</p>	<p>construct data on the most appropriate application;</p> <p>know how to interpret data;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: Google Docs, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending.</p> <p>*Google docs, forms, Excel</p>	<p>use keyboard shortcuts and functions to input data on spreadsheets and create formulae</p> <p>know how to interpret data, including spotting inaccurate data and comparing data;</p> <p>add data to an existing database;</p> <p>use key vocabulary to demonstrate knowledge and understanding in this strand: Google Docs, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending.</p> <p>*Google docs, forms, Excel</p>