

Old Park Primary School Computing Skills Progression



Highlighted statements show progression or new learning. Statements that are not highlighted show reviewed learning.

KS1: Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions KS2: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Experiment with different programmable toys.	Programme a programmable toy to perform simple sequences (1.1) Understand input, program and output in the context of a robotic toy (1.1). Use binary questions to identify an image (1.4)	Have an understanding of algorithms as sequences of instructions and be able to follow these (2.1) Describe carefully what happens in computer games (2.2)	Create an algorithm for an animated scene in the form of a storyboard (3.1) Describe how a program works by following the code (3.2)	Design and develop an interactive game (4.1) Design a toy with a computer controlled input-output (4.2) Solve problems they encounter by breaking them into smaller steps (4.2) Organise a research project by breaking it into smaller parts (4.5)	Create an algorithm for a game (5.1) Break a game into parts and develop them separately (5.1)	Type simple commands into Python's interactive shell (6.1) Create a plan for a text based adventure game in Python (6.1) Record an algorithm for sorting (6.2) Refine their storyboarding (6.3)

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KS1: Create and debug simple programs
KS2: use sequence, selection, and repetition in programs; work with variables and various forms of input and output

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	<p>Debug a handwritten program (set of instructions) (1.1)</p> <p>Give instructions and directions to others (1.1, 1.2)</p>	<p>Convert simple algorithms to programs on screen (2.1)</p> <p>Spot and fix errors in their programs. (2.1)</p>	<p>Write a program in Scratch to create an animation (3.1)</p> <p>Create their own sounds and graphics (3.1)</p> <p>Start to use a wider range of blocks such as 'repeat' (3.1)</p> <p>Start to experiment with variables in code (3.2)</p>	<p>Use if/then/else and repeat blocks (4.1)</p> <p>Use the keyboard for input and the screen for output (4.1)</p> <p>Work with variables to keep track of a score (4.1)</p> <p>Write an algorithm to show how a toy would respond to a particular input (4.2)</p> <p>Appreciate the similarities between composition and programming (4.3)</p>	<p>Use a sequence of instructions (5.1)</p> <p>Use selection and repetition within a game (5.1)</p> <p>Use variables within a game (5.1)</p>	<p>Use the print command in Python (6.1)</p> <p>Create a list in Python (6.1) and choose a random item from it (6.1)</p> <p>Use the variables if/elif/else in Python (6.1)</p> <p>Define multiple procedures using the correct syntax in Python (6.1)</p>

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KS1: Use logical reasoning to predict the behaviour of simple programs

KS2: use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Understand input, program and output in the context of a robotic toy (1.1).	<p>Predict what a simple program will do (2.1) and start to notice common features (2.2)</p> <p>Use logical reasoning to predict what a program will do (2.2)</p> <p>Conduct tests to check predictions that have been made (2.2)</p>	<p>Correct mistakes in their animated programs (3.1)</p> <p>Explain the connection between their storyboard and the final program (3.1)</p> <p>Develop strategies for finding errors in programs (3.2)</p> <p>Build up resilience and strategies for problem solving (3.2)</p> <p>Recognise a number of common types of bug in software (3.2)</p>	<p>Correct mistakes in their own programs (4.1, 4.2)</p> <p>Explain how their algorithms work (4.1, 4.2)</p>	<p>Self-correct errors in their program (5.1)</p> <p>Improve their game based on feedback from others (5.1)</p> <p>Explain how their game works to others (5.1)</p>	<p>Use and record random, linear and binary search (6.2)</p> <p>Use algorithms to test properties of numbers (6.2)</p> <p>Appreciate that quicksort will be quicker than other types of sorting algorithms (6.2)</p>

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KS1: Recognise common uses of technology beyond school.

KS2: 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

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Recognise that range of technology is used in different places around the home and school.	Recognise that computers are used in a wide range of industries (1.2, 1.3) Think about how digital illustrations might have been created (1.3) Compare audio books with printed ones (1.5) Think about the merits of printed cards and e-cards (1.6)	Think critically about computer games and their uses (2.2) Review others' photos, considering their merits (2.3) Understand that email is used to communicate (2.5)] Use classification keys to identify a class of things from questions about their properties (2.6)	Understand that the web is just one application of the internet (3.4) Develop a basic understanding of how email works (3.5) Work collaboratively with a remote partner (3.5) Experience video conferencing (3.5) Collect and present information via the internet (3.6)	Explain how digital technology contributes to creating and distributing music (4.3) Understand the difference between the web and the internet (4.4) Understand that web pages are written and transmitted in HTML (4.4) Understand the importance of links (4.4) Recognise the parts of a URL (4.4) Edit content on wikipedia (4.5)	Send and receive cyphers in a range of formats including morse, semaphore and substitution cyphers (5.2) Decrypt messages with a Caesar cypher and an unknown key (5.2) Understand the importance of encryption on the web (5.2) Compare and contrast Morse and semaphore with communication via the internet (5.2) Correct SPAG errors in the content of others' (5.4) Understand how the internet makes blogging possible (5.5) Comment on a blog post (5.5)	Understand that information is communicated digitally across the internet (6.4) Name hardware used in connecting computers together and describe their functions(6.4) Describe how data is transmitted via the internet and appreciate the route taken by data packets (6.4) Have some understanding of how DNS works (6.4) Convert messages between test and US-ASCII code (6.4) Use collaborative software to plan and create content (6.6)

Old Park Primary School Computing Skills Progression



KS2 ONLY: use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
			<p>Glean ideas from others' work on the Scratch website (3.1)</p> <p>Use a search engine to find out about a new topic efficiently (3.4) and use filters to refine (3.4)</p> <p>Find images that have a creative commons license (3.4)</p> <p>Understand that Google results are based on the key words in its index of a copy of the web. (3.4)</p> <p>Provide useful feedback to their partners (3.5)</p>	<p>Find articles written on wikipedia (4.5)</p> <p>Identify an article source and evaluate its trustworthiness. (4.5)</p>	<p>Evaluate web sources for quality and bias (5.4)</p> <p>Appreciate how Google selects web pages in search results and show an awareness of other search engines (5.4)</p> <p>Use tools to make web searches more efficient or effective (5.4)</p> <p>Identify the criteria for an effective blog post (5.5)</p> <p>Identify common characteristics of art galleries using the web (5.6)</p>	<p>Use identified characteristics to reflect on their own work. (6.3)</p> <p>Think critically about other media they could use (6.3)</p> <p>Use search facilities in a range of online reference tools to research information (6.5)</p> <p>Provide constructive, critical feedback to others (6.6)</p>

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KS1: use technology purposefully to create, organise, store, manipulate and retrieve digital content

KS2: 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

EFYS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Print out work unaided</p> <p>Use a word bank to create simple sentences</p> <p>Enter single letters from a keyboard to write words and sentences</p> <p>Use spacebar</p> <p>Use delete/backspace key</p> <p>Move pictures into the correct positions</p> <p>Use a painting program to create a representation and simple patterns</p> <p>Select and add stamps or clipart to a picture</p> <p>Record and play sounds</p> <p>Use buttons to navigate Internet</p> <p>Use keywords to describe objects</p> <p>Use a sound recorder to collect and store information as sound</p> <p>Explore a variety of ICT tools</p> <p>Talk about their use of ICT</p>	<p>Film video keeping the camera still and steady (1.2)</p> <p>Join video clips together (1.2)</p> <p>Start to use video editing techniques (1.2)</p> <p>Find relevant information on the web (1.3, 1.4, 1.6)</p> <p>Use a paint program to create and improve an image (1.3)</p> <p>Retrieve saved work (1.3, 1.5)</p> <p>Organise, move and resize images (1.4, 1.6)</p> <p>Copy and paste an image (1.4)</p> <p>Record and combine dialogue and sound effects to create an audiobook (1.5)</p> <p>Edit and improve audio recordings (1.5)</p> <p>Understand how to enter non-alphabetic characters (1.6)</p> <p>Enter and modify text (1.6)</p>	<p>Use a digital camera or app to take sharp, focused photographs (2.3, 2.6)</p> <p>Review and reject or rate the images they take (2.3)</p> <p>Edit and enhance photographs (2.3, 2.6) including cropping (2.6)</p> <p>Develop collaboration and group working skills (2.4)</p> <p>Find information using a search engine (2.4)</p> <p>Improve note-taking skills through the use of mind mapping software (2.4)</p> <p>Develop presentation skills through creating and presenting a multimedia presentation (2.4)</p> <p>Open, compose and send emails (2.5)</p> <p>Format and edit text in emails and proofread before sending (2.5)</p> <p>Open and upload email attachments (2.5)</p> <p>Compile a simple database (2.5)</p> <p>Identify the main parts of an email address (2.5)</p> <p>Use software to produce basic charts, adding labels and titles (2.6)</p>	<p>Operate a simple video camera to record high quality footage (3.3)</p> <p>Analyse existing footage to learn how it is shot (3.3)</p> <p>Import, edit and add audio to footage (3.3)</p> <p>Use more advanced video editing tools such as transitions, captions or credits (3.3)</p> <p>Know how to export a movie in a standard format (3.3)</p> <p>Create original images (3.4)</p> <p>Design and record an effective and interesting presentation (3.4)</p> <p>Analyse data that has been collected (3.6)</p>	<p>Create a simple musical composition using sequencing software (4.3)</p> <p>Refine and develop and edit musical compositions (4.3)</p> <p>Edit musical samples (4.3)</p> <p>Use ... tags to create links (4.4)</p> <p>Know and use some simple HTML to edit a webpage (4.4, 4.5)</p> <p>Create a webpage by writing HTML (4.4)</p> <p>Use weather measurement equipment effectively (4.5)</p> <p>Use software to create simple charts (4.6)</p> <p>Make predictions based on data (4.6)</p> <p>Select a way to present the weather effectively to peers (4.6)</p>	<p>Create images and sounds for use within a game (5.1)</p> <p>Use software to draw geometric shapes (5.3)</p> <p>Create a tessellating pattern (5.3)</p> <p>Create a computer-generated landscape (5.3)</p> <p>Create a pattern using repeating, varied shapes using the clone tool (5.3)</p> <p>Correctly attribute third-party content on a shared site (5.4)</p> <p>Add their own content, including images, audio or video, to a blog post (5.5)</p> <p>Create complex, compound objects using 3d modelling software (5.6)</p> <p>Apply appropriate finishes to surfaces using 3d modelling software (5.6)</p>	<p>Shoot high-quality video footage (6.3)</p> <p>Assemble a rough cut of their footage (6.3)</p> <p>Use advanced features of video editing software (6.3)</p> <p>Appreciate the difference between media, project files and exported video (6.3)</p> <p>Create a range of digital content (6.5)</p> <p>Compare different routes using mapping software (6.5)</p> <p>Combine written text with images and video (6.5)</p> <p>Word-process text quickly and to a good standard (6.6)</p> <p>Pay attention to the principles of good design when designing and creating pages. (6.6)</p>

Old Park Primary School Computing Skills Progression



KS1: 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.

KS2: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	<p>Give constructive feedback to others (1.3, 1.5) Know what to do if they discover something online they don't like (1.4) Know they should not post anything private on the web (1.4)</p>	<p>Be aware of how to use games safely and in balance with other activities (2.2) Be aware of age restrictions (2.2) Know they should tell their parents if they are concerned by anything they see or play (2.2) Explain why some photographs should not be shared publicly (2.3) Know how to report concerns about web content and search the internet safely (2.4) Use appropriate language in emails (2.5) Know how to decide if it is safe to open an email or not (2.5)</p>	<p>Know how to search securely and what do if they find something they don't like (3.4) Ensure their use of email complies with the school's AUP (3.5) Explain how they would report any concerns or inappropriate use of emails and show an understanding of problems associated with email (3.5) Treat data in a way that shows respect for individuals (3.6)</p>	<p>Appreciate that copyright exists on original works and should be respected (4.3) Create web pages that are safe to visit and do not share personal information (4.4) Appreciate the importance of a neutral viewpoint (4.5)</p>	<p>Recognise the importance of creating strong and secure passwords and keeping them secret (5.2) Understand what a complex password looks like (5.2) Understand how to check if a web page is encrypted (5.2) Create or curate content to demonstrate knowledge of safe, respectful and responsible use of technology. (5.4) Create or curate content to demonstrate a knowledge of how to report concerns (5.4) Create or curate content to demonstrate a knowledge of acceptable/unacceptable behaviour (5.4, 5.5) Understand how to use blogs safely and responsibly (5.5) Understand how to comment respectfully (5.5) Know how to report concerns about posts or comments (5.5)</p>	<p>Appreciate the need to observe license terms and conditions (6.3) Appreciate the implications of how networks work for their online safety (6.4) Consider ways that their safety or privacy may be compromised by using the internet (6.4) Consider the implications of smartphones storing location data (6.5)</p>

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The separate Online Safety curriculum sets out coverage and progression of online safety skills more clearly. The skills above are ones specifically covered through computing units and do not reflect the full depth of coverage across the school.