

Spurcroft Primary School
Progression of Knowledge and Skills



Subject: Computing	Subject Leader: Natalie Taylor
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EYFS

	Knowledge	Skills	Vocabulary
Digital Literacy	Identify some of the technology we use to communicate.	Use technology safely - ask for help when pop-ups and in-app purchases occur whilst online.	Choices Internet Website
Information Technology	Know how to operate simple electronic devices.	Use technology purposefully to create digital content. - change colours using a touch screen.	Equipment Buttons Movement
Computer Science		Use a series of instructions to create an action, such as making a sandwich. - follow instructions. - give instructions.	Screen Mouse Images Keyboard

Y1

	Knowledge	Skills	Vocabulary
Digital Literacy	Use technology safely and keep personal information private. - identify some simple examples of my personal information (e.g. name, address, birthday, age, location). - describe the people I can trust and can share this with. - explain why I can trust them. Know basic terms around hardware (tower, disc drive, monitor speaker, printer mouse, keyboard, microphone, USB port).	Use technology safely and keep personal information private. -use a safe search -close window and report if they see an inappropriate image	Support Concern Online Communicate Internet Technology Website Digital Exit

	Recognise common uses of information technology beyond school, such as bar codes and CCTV.		Save Open Font
Information Technology	Identify on a computer: -on switch -mouse -shutdown icon	Use a desktop computer: - switch on and shutdown a computer. - use a computer mouse. - launch an application and manipulate windows. - use a computer mouse to drag objects. Use technology purposefully to create digital content: - paint with different colours. - paint with different brushes. - create shapes and fill areas. - make changes to improve work using the undo and redo tools. - add text to a painting. - use a computer program to make a poster. Use technology purposefully to store digital content. - save work on the school's network server. - use suitable titles for saved work. Use technology purposefully to retrieve digital content. - retrieve saved work using the school's network server.	Type Save Retrieve File Keyboard Mouse Text box Undo/Redo Word Program Algorithm Beebot Coding Blocks
Computer Science	Know that an algorithm is a set of sequenced instructions.	Use logical reasoning to predict the behaviour of simple programs (Scratch) - describe what will happen in simple programs. - explain reasoning. Use simple, precise algorithms to edit/adapt a program. - program a sprite to grow and shrink. Debug simple programs. - identify where steps in an algorithm need improving/changing. - improve these steps to debug the program.	

	Knowledge	Skills	Vocabulary
Digital Literacy	Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. - give reasons why you should only share information with people I choose to and can trust. - explain that if you are not sure or feel pressured, you should ask a trusted adult. - understand and give reasons why passwords are important.	Use technology respectfully. - describe ways that some people can be unkind online. - offer examples of how this can make others feel.	Personal Private Safely Digital Cyberbullying Report Data Information Search Minimise Folder Copy Paste Image Cut Align Bullets Format Debug
Information Technology	Know that electronic information is saved as bytes.	Use basic computer skills: - change the case of text. - align text. - use bullets and numbering. - use <ctrl> key. - insert and format text boxes. Use technology purposefully to manipulate digital content. - organise ideas for a presentation. - create a simple presentation with text. - add and format an image. - use copy and paste. - search and print. Use technology purposefully to organise digital content. - use folders to save work on the school's network server.	

		- improve these steps to debug the program.	
Computer Science	Know that algorithms are implemented as programs on digital devices. Know that programs execute by following precise and unambiguous instructions.	Use logical reasoning to predict the behaviour of simple programs using sequence (Scratch) - describe what will happen in simple programs, including when the sequence is imprecise. - explain reasoning. Use simple, precise algorithms to program a pencil sprite using sequence. - create an algorithm and use the green flag to start. - create an algorithm to draw a shape. Debug simple programs. - identify where steps in an algorithm need improving/changing.	

Y3

	Knowledge	Skills	Vocabulary
Digital Literacy	Recognise acceptable/ unacceptable behaviour. - Know what bullying is and describe how people may bully others. - Explain rules about how to behave online and how to follow them. Identify a range of ways to report concerns about contact. - know which adults to share concerns with.	Use technology safely, respectfully and responsibly. - describe simple strategies for creating and keeping passwords private. - describe how connected devices can collect and share our information with others.	Respectful Acceptable Unacceptable Social media Privacy Cyberbullying Virtual Control
Information Technology	Begin to understand that a kilobyte (kB) is 1000 bytes, 1000 kB is a megabyte (MB), 1000 MB is a gigabyte (GB) and 1000 GB is one terabyte (TB).	Use a variety of software to accomplish given goals: - collect information. - design and create content. - present information. Use search technologies effectively: - identify how word order affects search results. - explain how searches return results.	

Computer Science	Know that programs are written to accomplish specific goals. Know that an algorithm needs to be written in sequenced steps.	Write programs that accomplish specific goals using sequence (Scratch): - create an algorithm and use the green flag block to start. - create an algorithm and use the spacebar block to reset. - create an algorithm to navigate a maze. Use various forms of input and output. - use input devices such as a keyboard, mouse. - use output devices such as the monitor and speakers.	
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Y4

	Knowledge	Skills	Vocabulary
Digital Literacy	Recognise acceptable/ unacceptable behaviour. - describe how bullying may change as we grow older. - recognise when it is taking place online. - identify how a message can hurt someone's feelings. - know how to respond to a hurtful message online. Understand the opportunities computer networks offer for communication: - name means of online communication. Identify and use a range of ways to report concerns about content. - Know how to use the 'block' and 'report' buttons. - know concerns can be reported to CEOP, or talk in confidence to counsellors at Childline.	Use technology safely, respectfully and responsibly. - explain how to be a responsible digital citizen. - create an online safety superhero character.	Communication Digital citizen Server Search engine Print screen Spreadsheet Formulae Column Row Cell Import Upload Network Software Hardware Decompose

Information Technology	Name a range of software. Know that search results are selected and ranked.	Use search technologies effectively: - use Google Operators. Select a variety of software to accomplish given goals: data handing - select, use and combine internet services such as learning platforms, school, class or individual blogs or image-editing suites. - analyse information - evaluate information - collect data - present data	
Computer Science	Understand how computer networks can provide multiple services, such as the World Wide Web: - know the Internet is a global network of networks while the World Wide Web (www) is a collection of information which is accessed via the Internet. Appreciate how results are selected and ranked: - know that algorithms are used to rank results Control or simulate physical systems	Design programs that accomplish specific goals using repetition (Scratch): - compare quizzes - decompose a problem into smaller parts. - write a program which uses sequence and repetition. - use appropriate block commands to create a sequence.	
	- Know what physical systems are.	- use appropriate block commands to create repetition. Use logical reasoning to detect and correct errors in algorithms and programs: - debug a program which uses sequence and repetition. - identify where steps in an algorithm need improving/changing. - improve these steps to debug the program. Control or simulate physical systems - program a car to race around the track. - If/then command blocks in a Forever Loop.	

	Knowledge	Skills	Vocabulary
Digital Literacy	Understand the opportunities computer networks offer for collaboration. - know how people can collaborate online. - identify different online collaboration tools. Use technology safely, respectfully and responsibly. - explain what malware is, give some examples of how <i>Managing Online Information:</i> - explain what cookies are and give examples of how online browsing can be tracked and used by others (e.g. adware). - identify commercial content and scams (e.g. popups, spam) and discuss simple strategies to manage such content (e.g. pop-up blockers, junk folders, unsubscribing). - explain how internet use is often monitored (e.g. by my school or internet service provider). <i>Copyright and ownership:</i> - explain why copying someone else's work from the internet without permission can cause problems.	Use technology safely, respectfully and responsibly. - describe a range of different bullying types and behaviours and assess when these are occurring (e.g. homophobic, racist, gender, exclusion). - identify and demonstrate actions to support others who are experiencing difficulties online. Be discerning in evaluating digital content. - evaluate web pages - explain what fake news is and recognise some examples	Age appropriate Selection Spam Phishing Citation Plagiarism System Internet services World wide web Filter Attachment Email Database Hyperlink Repetition Selection Sequencing

	<i>Online reputation:</i> - recognise the need to be careful before sharing anything about ourselves or others online. - know who to ask if unsure if about putting something online. <i>Self-image and identity online:</i> - explain what is meant by the term 'identity'. - explain how we represent ourselves in different ways online. - explain ways in which identities might change depending on the online activity (e.g. gaming; using an avatar; social media).		
Information Technology	Describe a branching database.	Combine a variety of software to accomplish given goals: Branching database - select, use and combine software on a range of digital devices. - analyse data - evaluate data - design and create systems (branching database). - add hyperlinks to PPT pages. - add images and text.	
Computer Science	Know how computers process instructions and commands, including how different variables can be changed and the effect this has. Describe computer networks, including the internet.	Design programs that accomplish specific goals using variables (Scratch): - compare games. - decompose a problem into smaller parts. - write a program which uses variables. - use appropriate block commands. - create a game that keeps score. - create a game that has a timer. Use logical reasoning to detect and correct errors in algorithms and programs: - debug a program which uses variables.	

		- identify where steps in an algorithm need improving/changing. - improve these steps to debug the program.	
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Y6

	Knowledge	Skills	Vocabulary
Digital Literacy	Use technology safely, respectfully and responsibly. - know that I have a digital footprint. - describe what is appropriate to say and do in different online settings/ platforms (e.g. opinions, values, information, shares, 'likes', 'forwards'). - describe the benefits/potential risks of sharing information online. - identify and assess behaviours that might be seen as bullying in different online contexts (e.g. close friend groups vs public forums) and adjust my own behaviour accordingly. Be discerning in evaluating digital content. - I can accurately define the concept of plagiarism. - I can use this definition to evaluate my own use of online sources.	Use technology safely, respectfully and responsibly. - adjust my own behaviour according to online context. Be discerning in evaluating digital content. - use understanding of plagiarism to evaluate own use of online sources.	Responsible Respect Evaluating Stereotype Secure Unsecure http(s) HTML Variables Input
Information Technology	Name some of the software that can be used in designing a webpage. Explain how HTML is used to create a web page and how it is transmitted as packets of digital data over the internet	Combine a variety of software to accomplish given goals: webpage - select, use and combine software on a range of digital devices. - analyse data - evaluate data - design and create systems - add hyperlinks into a webpage. - add images and text - publish and share a webpage.	

Computer Science	Recognise and describe different languages that can be used to code.	Program using an alternative language (Logo): - design, write and debug a program using a second programming language based on their own ideas	
		-test and debug their code, explain what bugs they found and how they fixed these.	