Computing

Skills Progression Overview

Year group	Programming	Digital Literacy	Technology in lives	Data Handling	E-safety
6	Use external triggers and infinite loops to demonstrate control Follow a sequence of instructions Use conditional statements and edit variables. Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. Keep testing a program and recognise when it needs to be debugged. Begin to explore alternative coding languages e.g Python and evaluate their pros and cons. Use key vocabulary to demonstrate knowledge and understanding in this strand: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program,, world, object, tool palette, program environment, smooth, flatten, raise.	Identify the purpose for selecting an appropriate online tool. Discuss audience, atmosphere and structure of a presentation or video. Use a movie editing package to edit/refine and add titles. Insert links, images and formatting text to create effect. Save, retrieve and evaluate their work, making amendments. Use a digital device to record sounds and present audio. Trim, arrange and edit audio levels to improve quality. Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience. Store presentations and videos online where they can be accessed by themselves and shared with others (Google Drive/ Google Classroom). Evaluate the effectiveness of their own work and the work of others.	Use safe search terms on trusted search engines, and evaluate websites based on layout and information. Identify appropriate forms of online communication for different audiences. Use strategies to check the reliability of information (cross-check with another source such as books). Explain copyright and acknowledge the sources of information.	Display data using software such as spreadsheets. Check the accuracy of data and compare data for a specific purpose. Interpret data, including spotting inaccurate data and comparing data. Use key vocabulary to demonstrate knowledge and understanding:: Google Docs, Google Classroom, Google Drive, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending	Protect passwords and other personal information. Be a good online citizen and friend; Evaluate what sort of privacy settings might be relevant to reducing different risks. Seek help from an adult when something that is unexpected or worrying occurs online. Discuss scenarios involving online risk. Begin to 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.
5	Use external triggers and infinite loops to demonstrate control Follow a sequence of instructions Use conditional statements and edit variables. Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. Keep testing a program and recognise when it needs to be debugged. Begin to use key vocabulary to demonstrate knowledge and understanding in this strand: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program,, world, object, tool palette, program environment, smooth, flatten, raise.	Select an appropriate tool to create and share ideas. Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified. Develop skills using transitions and hyperlinks to enhance the structure of presentations. Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness. Review and improve their own work and support others to improve their work. Create and share presentations and films using Movie Maker. Children begin to look at new software, creating 3D models using the 3D printer.	Use safe search terms on trusted search engines, and evaluate websites based on layout and information. Understand the internet can be used to search, collaborate and communicate. Use strategies to check the reliability of information (cross-check with another source such as books). Choose appropriate tools for communication and collaboration and use them responsibly e.g. more advanced use of Google drive/classroom.	Collect and record information using spreadsheets and databases. Analyse information and question data. Identify poor quality data. Solve problems and present answers using data tools. Use key vocabulary to demonstrate knowledge and understanding:: Google Docs, Google Classroom, Google Drive, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending	Protect passwords and other personal information. Be a good online citizen and friend; Evaluate what sort of privacy settings might be relevant to reducing different risks. Seek help from an adult when something that is unexpected or worrying occurs online. Discuss scenarios involving online risk. Begin to 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.
4	Use logical thinking to solve an open-ended problem by breaking it up into smaller parts. Write programs, putting commands into a sequence to achieve a specific outcome. Give a set of instructions to follow and predict what will happen. Keep testing a program and recognise when it needs to be debugged. Link the use of algorithms to solve problems to work in Maths, Science & DT and other real-world contexts. Use variables to create an effect, e.g. repetition, if, when, loop. Use key vocabulary to demonstrate knowledge and understanding in this strand: decompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable.	Express individual ideas, create atmosphere and appeal to different audiences through digital technology, art, PowerPoint, Google Docs and posters. Develop editing skills by cropping, organising and arranging film clips. Use art programs and online tools to modify photos for a specific purpose using a range of effects. Explore the use of video, animation and green screening for a specific audience. Use a keyboard effectively, including the use of keyboard shortcuts. Use font sizes and effects such as bullet points appropriately. Know how to use a spell check. Provide constructive feedback on peers' work.	Talk about Google drive/classroom and the different resources they can access, including the internet. Frame questions and identify keywords to search for information on the internet search engines. Consider the reliability of information and ways it may influence you.	Express information by sorting and organising it for others to be able to understand. Search a ready-made database to answer questions. Use key vocabulary to demonstrate knowledge and understanding e.g. Google Docs, Google Dive, Google Classroom, insert, table. Present data in appropriate format for an audience.	Reflect on own digital footprint and behaviour online Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying Agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords Seek help from an adult when something that is unexpected or worrying occurs online. Demonstrate understanding of age-appropriate websites and adverts; Use key vocabulary to demonstrate knowledge and understanding: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public.

3	Begin to use logical thinking to solve an open-ended problem by breaking it up into smaller parts. Begin to write programs, putting commands into a sequence to achieve a specific outcome. Give a set of instructions to follow and predict what will happen. Keep testing a program and recognise when it needs to be debugged. Use variables to create an effect, e.g when. Begin to use key vocabulary to demonstrate knowledge and understanding in this strand: decompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable.	Begin to express individual ideas through digital technology, art, PowerPoint and posters. Begin to develop editing skills by cropping, organising and arranging film clips. Explore the effects of sound and music in animation, video and green screening.. Share work and offer feedback and ideas for improvement with animation and film, giving their opinion on which software to use. Use an increasing variety of tools and effects in paint programs and talk about their choices. Create own documents, adding text and images. Use the keyboard to enter text (index fingers left and right hand). Develop formatting skills using keyboard commands: Use the return/enter key. Use shift and caps lock to enter capital letters. Use delete and backspace buttons. Save and edit work later (Google Drive/Classroom). Children begin to look at new software, creating 3D models using the 3D printer.	Save work on Google drive/classroom and on individual devices. Use appropriate tools to collaborate on-line e.g ppt/Google classroom	Children begin to talk about and explore sharing information in tables for others to be able to understand. Begin to use key vocabulary to demonstrate knowledge and understanding e.g. Google Docs, Google Dive, Google Classroom, insert, table. Present data for others.	Reflect on own digital footprint and behaviour online Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying Agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords Seek help from an adult when something that is unexpected or worrying occurs online. Demonstrate understanding of age-appropriate websites and adverts; Begin to use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public.
2	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn. Control the nature of events: repeat, loops, single events and add and delete features. Give a set of instructions to follow and predict what will happen; Improve/change their sequence of commands by debugging. Understand what algorithms are and why they are needed and how they must be unambiguous and contain a start event, action and item. Use key vocabulary to demonstrate knowledge and understanding: algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.	Understand the particular purposes technology can be used for and that by adding text and images you can communicate with technology. Use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape. Use applications and devices in order to communicate ideas, work, messages and demonstrate control Use key vocabulary to demonstrate knowledge and understanding in this strand: 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.	Begin to understand there are a variety of sources of information and begin to recognise the differences. Begin to understand what the internet is and the purposes that it is used for. Understand the different types of content on websites and that some things may not be true or accurate.	Take and save photographs, video and record sound to capture learning on an iPad. Ask questions and consider how they will collect information. Collect data, generate graphs and charts to find answers. Create paper/ object decision trees and explore a branching database Investigate different types of digital data e.g. online encyclopaedias	Identify what counts as personal information and begin to explore how to safeguard it. Identify what is appropriate and inappropriate behaviour on the internet. Agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords Seek help from an adult when something that is unexpected or worrying occurs online. Demonstrate how to safely open and close applications and log on and log off from websites
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R	Independently follow and give simple instructions to and from peers and adults. Use simple programming to have a desired outcome of a programmable machine (beebots)	Recognise text, images and sound when using ICT. Develop an interest in ICT by using age appropriate websites or programs. Begin to develop their creativity using technology through recording videos (sound) or photos on an iPad.	Recognise purposes for using technology in school and at home. Understand that things created belong to the person making them and can be shared with others using technology. Recognise that the Internet can be used to play and learn.	Collect information as photos Use a simple pictogram or set of photos to count and organise information.	Talk about good & bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you