Progression in Computing Skills

Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topics	Autumn 1&2 : Explorers Spring 1: Toys Spring 2: Grace Darling Summer 1&2: Travel & Transport	Autumn 1&2: Great Fire of London Spring 1&2: Rainforests Summer 1&2: Danger at Sea	Autumn 1&2: World War One Spring 1&2: Stone Age to Iron Age Summer 1&2: Extreme Earth	Autumn 1&2: Vikings Spring 1&2: Romans Summer 1&2: Egyptians	Autumn 1&2: Anglo Saxons and Scots Spring 1&2: Maya Civilisation Summer 1&2: Local study	Autumn 1&2: Battle of Britain Spring 1&2: History of Medicine Summer 1&2: Ancient Greece
E-Safety	Understand they need to follow certain rules to remain safe when visiting places online. Learn that many websites ask for information that is private and discuss how to responsibly handle such requests. Explore what cyber-bullying means & what to do when they encounter it. Understand the need to tell a trusted adult if they come across something they are unhappy with online.	Understand they need to follow certain rules to remain safe when visiting places online. Learn that many websites ask for information that is private and discuss how to responsibly handle such requests. Explore what cyber-bullying means & what to do when they encounter it. Understand the need to tell a trusted adult if they come across something they are unhappy with online.	Agree sensible e-safety rules for the classroom. Choose a secure password for age-appropriate websites. Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button. Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.	Agree sensible e-safety rules for the classroom. Choose a secure password for age-appropriate websites. Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button. Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.	Agree sensible e-safety rules for the classroom. Discuss their own personal use of the Internet and choices they make. Discuss how to protect devices from virus threats. Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns. Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.	Agree sensible e-safety rules for the classroom. Discuss their own personal use of the Internet and choices they make. Discuss how to protect devices from virus threats. Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns. Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.

Programming						
Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Physically follow and give each other instructions to move around. Explore outcomes when buttons are pressed in sequences on a programmable toy. Begin to identify what algorithms are, and how they can be used to achieve a specific purpose. Execute a program on a programmable toy to achieve a specific purpose. Use the word debug to correct any mistakes when programming. Begin to predict what will happen for a short sequence of instructions in a program.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Physically follow and give each other forward, backward & turn (right-angle) instructions. Articulate an algorithm to achieve a purpose. Plan and enter a sequence of instructions to achieve an algorithm with a programmable toy, specifying distance and turn. Explore outcomes when giving instructions in a simple visual programming language. Watch a Logo/block-based program execute and debug any problems. Predict what will happen and test results.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Plan and enter a sequence of instructions on a programmable device specifying distance and turn to achieve specific outcomes, and debug the sequence where necessary. Test and improve / debug programmed sequences. Explore outcomes when giving sequences of instructions in block based programming software. Use repeat to achieve solutions to tasks, and begin to use if…then commands. Talk about algorithms planned by others; identify any problems and predict the expected outcome.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Plan and enter a sequence of instructions on a programmable device specifying distance and turn to achieve specific outcomes, and debug the sequence where necessary. Test and improve / debug programmed sequences. Explore outcomes when giving sequences of instructions in block based programming software. Use repeat to achieve solutions to tasks, and begin to use if…then… commands. Talk about algorithms planned by others; identify any problems and predict the expected outcome.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Increase confidence in the process to plan, code, test and review a program. Begin to use variables to modify the outcome of a program, e.g. to decide the size of a shape drawn. Continue to learn how to control software or hardware using if... then… commands. Explore a computer model to control a physical system. Identify difficulties and articulate a solution for errors in a program. Create variables to provide a score/trigger an action in a game.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. Increase confidence in the process to plan, code, test and review a program. Begin to use variables to modify the outcome of a program, e.g. to decide the size of a shape drawn. Continue to learn how to control software or hardware using if... then… commands. Explore a computer model to control a physical system. Identify difficulties and articulate a solution for errors in a program. Create variables to provide a score/trigger an action in a game.

Multimedia						
Record their own voices and play back to an audience.

Use a video or stills camera to record an activity.

Create sounds and simple music phrases using ICT tools.

Add text and images to a template document using an image and word bank.

Use index fingers (left and right hand) on a keyboard to build words and sentences.

Know when and how to use the space bar (thumbs) to make spaces between words | Use an increasing variety of tools and effects in paint programs and talk about their choices.

Use templates to make electronic books individually and in pairs.

Explore the effects of sound and music in animation and video.

Create own documents, adding text and images.

Use keyboard to enter text (index fingers left and right hand).

Know when and how to use the return/enter key, use shift and caps lock to enter capital letters and use delete and backspace buttons to correct text.

Create sentences, save and edit later. | Explore and begin to evaluate the use of multimedia to enhance communication.

Create and begin to edit presentation documents and text, experimenting with fonts, size, colour, alignment for emphasis and effect.

Use a range of effects in art programs including brush sizes, repeats, reflections.

Explore the use of video, animation & green screening.

Use ICT tools to create musical phrases.

Amend text & save changes.

Use individual fingers to input text and use shift key to type characters.

Amend text by highlighting and using select/delete and copy/paste.

Look at own work and consider how it can be improved for effectiveness. | Explore how multimedia can create atmosphere and appeal to different audiences.

Be confident in creating and modifying text and presentation documents to achieve a specific purpose.

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 ICT tools to create music phrases for a specific purpose.

Use a keyboard effectively, including the use of keyboard shortcuts.

Use font sizes & effects such as bullet points appropriately.

Know how to use a spell check.

Look at their own, and a friend's work and provide feedback that is constructive and specific. | Select an appropriate ICT or online 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.

Know how to use text and video editing tools in programs to refine their work.

Use online tools to create and share presentations and films. | Identify the purpose for selecting an appropriate online tool.

Discuss audience, atmosphere and structure of a presentation or video.

Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience.

Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations.

Store presentations and videos online where they can be accessed by themselves and shared with others.

Evaluate the effectiveness of their own work and the work of others. |

Technology in Our Lives	Recognise uses of technology in their homes and in their community. Understand that there are online tools that can help them create and communicate.	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.	Save work on the school network, on the Internet and on individual devices. Talk about the parts of a computer. Use appropriate tools to collaborate on-line. Use appropriate tools to communicate on-line. Use simple search tools and find appropriate websites. Talk about the owner of information online.	Talk about the school network and the different resources they can access, including the Internet. Frame questions and identify key words to search for information on the Internet. Consider reliability of information and ways it may influence you. Check who the owner is before copying photos, clipart or text.	Identify different parts of computing devices. Choose appropriate tools for communication and collaboration and use them responsibly. Use effective strategies to search with appropriate search engines. Talk about the different elements on web pages. Find out who the information presented on a webpage belongs to.	Describe different services provided by the Internet and how information moves around the Internet. Describe different parts of a computing device and how it connects to the Internet. Identify appropriate forms of online communication for different audiences. Use search engines as part of an effective research strategy. Describe how search results are selected & ranked. Acknowledge who resources belong to that they have found on the internet.
Data Handling	Take photographs, video and record sound to record learning experiences. Look at how data is representing digitally. Contribute to and interpret a pictogram.	Take and save photographs and video, or record sound to capture learning. Ask questions and consider how they will collect information. Collect data, generate graphs and charts to find answers.	Find out information from a pre-prepared database, asking straightforward questions. Contribute towards a database. Construct and use a branching database. Record data in a variety of ways.	Plan and create a database to answer questions. Identify different types of data. Ask questions carrying out simple searches on a database. Identify inaccurate data.	Collect and record information using spreadsheets and databases. Carry out complex searches (e.g. using and/or; ≤ / ≥). Solve problems and present answers using data tools.	Use the whole data process – generate, process, interpret, store, and present information – realising the need for accuracy and checking plausibility. Select appropriate data tools. Identify and present results.

| | | Save and retrieve the data to show to others.

Create paper/object decision trees and explore a branching database.

Investigate different types of digital data e.g. online encyclopaedias | Present data for others.

Use a data logger to monitor changes and talk about the outcomes seen. | Present data in appropriate format for an audience.

Use a data logger to record and compare individual readings. | Analyse information and question data.

Identify poor quality data.

Select appropriate use of a data logger for an investigation and interpret the findings. | Plan investigations using the outcomes from a data logger to show findings. |
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