

Threshold Progression – Computing

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-Safety	<p>Begin to understand what personal information is.</p> <p>Know who to tell when they see something that makes them uncomfortable and make sure an adult knows what they are doing.</p> <p>Recognise the Internet as an exciting place to be but understand the need for a balance.</p>	<p>Understand what personal information is and begin to understand who they can share it with, including the need to keep passwords private.</p> <p>Begin to recognise the need to know who they are sharing their learning with online and recognise the difference between real and imaginary online experiences.</p> <p>Recognise the Internet as an exciting place to be but understand the need for a balance in how they spend their time and make good choices about age appropriate activities.</p>	<p>Recognise the need to keep personal information and passwords private. They recognise the need for a secure password.</p> <p>Understand that an adult needs to know what they are doing online and understand how to report concerns, including cyberbullying.</p> <p>Understand that any personal information they put online can be seen and used by others.</p>	<p>Children understand the need for rules to keep them safe when exchanging ideas online.</p> <p>Recognise the need to choose age appropriate games to play on their devices, and when to limit use.</p> <p>Recognise that they can use online tools to collaborate and communicate with others and the importance of doing this responsibly, choosing age-appropriate websites.</p> <p>Recognise the effect their writing or images might have on others.</p>	<p>Recognise the risks and rewards of using Internet communication tools and understand how to protect themselves and the devices they use.</p> <p>Understand the need to respect the rights of other users, and understand their own responsibility for information that is shared and how it may impact on others.</p>	<p>Recognise their own right to be protected from the inappropriate use of technology by others and their responsibility to report concerns.</p> <p>Recognise the appropriate online tools to collaborate and communicate with others, understanding how to protect themselves from cyberbullying or causing hurt to others, especially when using social networks (including online gaming communities).</p>
Programming	<p>Physically follow & give each other instructions to move around</p> <p>Explore outcomes when buttons are pressed in sequences on a robot</p> <p>Begin to use software to create movement & patterns on a screen</p> <p>Begin to identify an algorithm to achieve a specific purpose</p> <p>Execute a program on a floor robot to achieve an algorithm</p> <p>Use the word debug to correct any mistakes when programming a floor robot</p> <p>Begin to predict what will happen for a short sequence of instructions in a program</p>	<p>Physically follow and give each other forward, backward & turn (right-angle) instructions</p> <p>Articulate an algorithm to achieve a purpose</p> <p>Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trail</p> <p>Explore outcomes when giving instructions in a simple Logo program</p> <p>Watch a Logo program execute & debug any problems</p> <p>Predict what will happen & test results</p> <p>Talk about similarities & differences between floor robots and logo on screen</p>	<p>Plan & enter a sequence of instructions on a robot specifying distance & turn to achieve specific outcomes, debug the sequence where necessary</p> <p>Test & improve / debug programmed sequences.</p> <p>Begin to type logo commands to achieve outcomes. Logo Website</p> <p>Explore outcomes when giving sequences of instructions in Logo software</p> <p>Use repeat to achieve solutions to tasks</p> <p>Solve open-ended problems with a floor robot & Logo including creating simple regular polygons, making sounds & planning movements such as a dance</p>	<p>Create & edit procedures typing logo commands including pen up, pen down & changing the trail of the turtle</p> <p>Solve open-ended problems with a floor robot, Logo & other software using efficient procedures to create shapes & letters</p> <p>Begin to correct errors (debug) as they program devices & actions on screen, & identify bugs in programs written by others</p> <p>Using Scratch, Create an algorithm & a program that will use a simple selection command for a game.</p>	<p>See Teach Computing – unit Year 5 Programming B (Selection in Quizzes) for support.</p> <p>Explore instructions to control software or hardware with an input & using if... then... commands</p> <p>Change inputs on a model to achieve different outputs</p> <p>Group commands as a procedure to achieve a specific outcome within a program</p> <p>Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming.</p>	<p>See Teach Computing – unit Year 6 Programming A (Variable in games) for support.</p> <p>Define a ‘variable’ as something that is changeable</p> <p>Explain why a variable is used in a program</p> <p>Choose how to improve a game by using variables</p> <p>Design a project that builds on a given example</p>
Multimedia	<p>Record their own voices and play back to an audience</p> <p>Use a video or stills camera to record an activity</p> <p>Create sounds and simple music phrases using ICT tools</p> <p>Add text and images to a template document using an image & word bank</p> <p>Use index fingers (left and right hand) on a keyboard to build words & sentences</p> <p>Know when & how to use the SPACE BAR (thumbs) to make spaces between words</p>	<p>Use an increasing variety of tools and effects in paint programs and talk about their choices</p> <p>Use templates to make electronic books individually and in pairs</p> <p>Explore the effects of sound and music in animation and video</p> <p>Create own documents, adding text and images, including online.</p> <p>Use keyboard to enter text (index fingers left & right hand)</p> <p>Know when and how to use the RETURN/ ENTER key. Use SHIFT & CAPS LOCK to enter capital letters. Use DELETE & BACKSPACE buttons to correct text. Create sentences, SAVE & edit later</p>	<p>Explore & begin to evaluate the use of multimedia to enhance communication</p> <p>Create & begin to edit presentation documents & text, experimenting with fonts, size, colour, alignment for emphasis & effect</p> <p>Use a range of effects in art programs including brush sizes, repeats, reflections</p> <p>Amend text & save changes.</p> <p>Use individual fingers to input text & use SHIFT key to type characters</p> <p>Amend text by highlighting & using SELECT/ DELETE & COPY/ PASTE</p> <p>Look at own work & consider how it can be improved for effectiveness</p>	<p>Explore how multimedia can create atmosphere & appeal to different audiences</p> <p>Be confident in creating & modifying text & presentation documents to achieve a specific purpose</p> <p>Use art programs & online tools to modify photos for a specific purpose using a range of effects</p> <p>Use a keyboard effectively, including the use of keyboard shortcuts</p> <p>Use font sizes & effects such as bullet points appropriately</p> <p>Know how to use a spell check</p> <p>Look at their own, and a friend’s work & provide feedback that is constructive & specific</p>	<p>Select an appropriate ICT or online tool to create and share ideas.</p> <p>Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified</p> <p>Develop skills using transitions and hyperlinks to enhance the structure of presentations</p> <p>Use online tools to create and share presentations and films</p>	<p>Identify the purpose for selecting an appropriate online tool</p> <p>Discuss audience, atmosphere and structure of a presentation or video</p> <p>Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience</p> <p>Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations</p> <p>Store presentations and videos online where they can be accessed by themselves and shared with others</p> <p>Evaluate the effectiveness of their own work and the work of others</p>
Technology in our lives	<p>Recognise uses of technology in their homes and in their community</p>	<p>Begin to understand what the Internet is and the purposes that it is used for</p> <p>Save work on the school network, on the Internet and on individual devices</p>	<p>Use appropriate tools to communicate on-line (using email)</p> <p>Use simple search tools and find appropriate websites</p> <p>Talk about the owner of information online</p>	<p>Talk about the school network & the different resources they can access, including the Internet</p> <p>Frame questions & identify key words to search for information on the Internet</p> <p>Consider reliability of information & ways it may influence you</p> <p>Check who the owner is before copying photos, clipart or text</p>	<p>Identify different parts of the Internet</p> <p>Choose appropriate tools for communication and collaboration and use them responsibly</p> <p>Use effective strategies to search with appropriate search engines</p> <p>Talk about the different elements on web pages</p> <p>Find out who the information presented on a webpage belongs to.</p>	<p>Describe different services provided by the Internet & how information moves around the Internet</p> <p>Identify appropriate forms of online communication for different audiences.</p> <p>Use search engines as part of an effective research strategy</p> <p>Describe how search results are selected & ranked</p> <p>Acknowledge who resources belong to that they have found on the internet</p>