St Matthew's Catholic Primary School Computing Skills Progression Reception – Yr6

Computing is split into 5 different categories: Programming, Multimedia, Technology in Our Lives and Data Handling. Below is the progression of skills that children should learn from Reception to Year 6.

Programming						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Help adults operate equipment around the school, independently operating simple equipment	Physically follow & give each other instructions to move around	Physically follow and give each other forward, backward & turn (right-angle) instructions	Plan & enter a sequence of instructions on a robot specifying distance & turn to achieve specific outcomes, debug the sequence where necessary	Create & edit procedures typing logo commands including pen up, pen down & changing the trail of the turtle	Explore procedures using repeat to achieve solutions to problems with Logo & a floor robot	Record in some detail the steps (the algorithm) that are required to achieve an outcome & refer to this when programming
Use simple software to make things happen	Explore outcomes when buttons are pressed in sequences on a robot	Articulate an algorithm to achieve a purpose	Test & improve / debug programmed sequences.	Use sensors to 'trigger' an action such as turning the lights on using Probot if it 'goes through a tunnel', or reversing if it touches something	Talk about procedures as parts of a program	Predict the outputs for the steps in an algorithm
Press buttons on a floor robot and talk about the movements	Begin to use software to create movement & patterns on a screen	Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trail	Begin to type logo commands to achieve outcomes.	Solve open-ended problems with a floor robot, Logo & other software using efficient procedures to create shapes & letters	Refine procedures to improve efficiency	Increase confidence in the process to plan, program, test & review a program
Explore options and make choices with toys, software and websites	Begin to identify an algorithm to achieve a specific purpose	Explore outcomes when giving instructions in a simple Logo program	Explore outcomes when giving sequences of instructions in Logo software	Experience a variety of resources to extend knowledge & understanding of programming.	Use a variable to replace number of sides in a regular shape	Write a program which follows an algorithm to solve a problem for a floor robot or other model
	Execute a program on a floor robot to achieve an algorithm	Watch a Logo program execute & debug any problems	Use repeat to achieve solutions to tasks	Create an algorithm & a program that will use a simple selection command for a game	Explore instructions to control software or hardware with an input & using if... then... commands	Write a program which follows an algorithm to achieve a planned outcome for appropriate programming software

	Use the word debug to correct any mistakes when programming a floor robot	Predict what will happen & test results	Solve open-ended problems with a floor robot & Logo including creating simple regular polygons, making sounds & planning movements such as a dance	Begin to correct errors (debug) as they program devices & actions on screen, & identify bugs in programs written by others	Explore a computer model to control a physical system	Control on screen mimics & physical devices using one or more input & predict the outputs
	Begin to predict what will happen for a short sequence of instructions in a program	Talk about similarities & differences between floor robots and logo on screen	Create an algorithm to tell a joke or a simple story	Use an algorithm to sequence more complex programming into order	Change inputs on a model to achieve different outputs	Understand how sensors can be used to measure input in order to activate a procedure or sequence & talk about applications in society
			Sequence pre-written lines of programming into order	Link the use of algorithms to solve problems to work in Maths, Science & DT.	Refine & extend a program	Create variables to provide a score/trigger an action in a game
			Talk about algorithms planned by others & identify any problems & the expected outcome		Identify difficulties & articulate a solution for errors in a program	Link errors in a program to problems in the original algorithm
					Group commands as a procedure to achieve a specific outcome within a program	
					Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming.	

Multimedia						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Use a mouse to rearrange objects and pictures on a screen	Record their own voices and play back to an audience	Use an increasing variety of tools and effects in paint programs and talk about their choices	Explore & begin to evaluate the use of multimedia to enhance communication	Explore how multimedia can create atmosphere & appeal to different audiences	Select an appropriate IT or online tool to create and share ideas.	Identify the purpose for selecting an appropriate online tool
Recognise text, images and sound when using IT	Use a video or stills camera to record an activity	Use templates to make electronic books individually and in pairs	Create & begin to edit presentation documents & text, experimenting with fonts, size, colour, alignment for emphasis & effect	Be confident in creating & modifying text & presentation documents to achieve a specific purpose	Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified	Discuss audience, atmosphere and structure of a presentation or video
Use a camera or sound recorder to collect photos or sound	Create sounds and simple music phrases using IT tools	Explore the effects of sound and music in animation and video	Use a range of effects in art programs including brush sizes, repeats, reflections	Use paint programs & online tools to modify photos for a specific purpose using a range of effects	Develop skills using transitions and hyperlinks to enhance the stricture of presentations	Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience
Use paint programs to create pictures	Add text and images to a template document using an image & word bank	Create own documents, adding text and images	Explore the use of video, animation & green screening	Explore the use of video, animation, & green screening for a specific audience	Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness	Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations
Begin to use a keyboard see programming	Use index fingers (left and right hand) on a keyboard to build words &sentences	Use keyboard to enter text (index fingers left & right hand)	Use IT tools to create musical phrases	Use IT tools to create music phrases for a specific purpose	Know how to use text and video editing tools in programs to refine their work	Store presentations and videos online where they can be accessed by themselves and shared with others

Develop an interest in IT by using age appropriate websites or programs	Know when & how to use the SPACE BAR (thumbs) to make spaces between words	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	Amend text & save changes.	Use a keyboard effectively, including the use of keyboard shortcuts	Use online tools to create and share presentations and films	Evaluate the effectiveness of their own work and the work of others
			Use individual fingers to input text & use SHIFT key to type characters	Use font sizes & effects such as bullet points appropriately		
			Amend text by highlighting & using SELECT/ DELETE & COPY/ PASTE	Know how to use a spell check		
			Look at own work & consider how it can be improved for effectiveness	Look at their own, and a friend's work & provide feedback that is constructive & specific		

Technology in Our Lives						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Recognise purposes for using technology in school and at home	Recognise uses of technology in their homes and in their community	Begin to understand there are a variety of sources of information and begin to recognise the differences	Save work on the school network, on the Internet and on individual devices	Talk about the school network & the different resources they can access, including the Internet	Identify different parts of computing devices.	Describe different services provided by the Internet & how information moves around the Internet
Understand that things they create belong to them and can be shared with others using technology	Understand that there are online tools that can help them create and communicate	Begin to understand what the Internet is and the purposes that it is used for	Talk about the parts of a computer	Frame questions & identify key words to search for information on the Internet	Identify different parts of the Internet	Describe different parts of a computing device & how it connects to the Internet. Connect a computing device to a keyboard, mouse or printer
Recognise that they can use the Internet to play and learn		Understand the different types of content on websites and that some things may not be true or accurate	Use appropriate tools to collaborate on-line	Consider reliability of information & ways it may influence you	Choose appropriate tools for communication and collaboration and use them responsibly	Identify appropriate forms of online communication for different audiences.
			Use appropriate tools to communicate on-line	Check who the owner is before copying photos, clipart or text	Use effective strategies to search with appropriate search engines	Use search engines as part of an effective research strategy
			Use simple search tools and find appropriate websites		Talk about the different elements on web pages	Describe how search results are selected & ranked
			Talk about the owner of information online		Find out who the information presented on a webpage belongs to.	Acknowledge who resources belong to that they have found on the internet

Data Handling						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Collect information as photos or sound files	Take photographs, video and record sound to record learning experiences	Take and save photographs, video & record sound to capture learning	Find out information from a pre-prepared database, asking straightforward questions	Plan and create a database to answer questions	Collect and record information using spreadsheets and databases	Use the whole data process – generate, process, interpret, store, and present information – realising the need for accuracy and checking plausibility
Use a simple pictogram or set of photos to count and organise information	Look at how data is representing digitally	Use microscopes or other devices to capture and save magnified images	Contribute towards a database	Identify different types of data	Carry out complex searches (e.g. using and/or; ≤ / ≥)	Select appropriate data tool
	Contribute to and interpret a pictogram	Ask questions and consider how they will collect information	Construct and use a branching database	Ask questions carrying out simple searches on a database	Solve problems and present answers using data tools	Identify and present results
		Collect data, generate graphs and charts to find answers	Record data in a variety of ways	Identify inaccurate data	Analyse information and question data	Interrogate a database, refining searches to provide answers to questions
		Save & retrieve the data to show to others	Present data for others	Present data in appropriate format for an audience	Identify poor quality data.	Plan investigations using the outcomes from a data logger to show findings
		Create paper/ object decision trees & explore a branching database	Use a data logger to monitor changes and talk about the outcomes seen	Use a data logger to record and compare individual readings.	Select appropriate use of a data logger for an investigation and interpret the findings	
		Investigate different types of digital data e.g. online encyclopaedias				