



St Joseph's Catholic Primary Voluntary Academy skills progression grid

Computing

Our curriculum is building on the skills learned in our Early Years

- Children will show resilience and perseverance in the face of a challenge.
- Children will develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Children will know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'

Skill	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-safety	<p>Understand they need to follow certain rules to remain safe when visiting places online</p> <p>Begin to understand that if you create something you own it</p> <p>Learn that many websites ask for information that is private & discuss how to responsibly handle such requests</p> <p>Explore how email can be used to communicate with real people within their schools, families & communities</p> <p>Learn that directory sites with alphabetical listings offer one way to find things on the Internet</p> <p>Explore what cyber-bullying means & what to do when they encounter it</p>	<p>Stay safe online by choosing websites that are good for them to visit & not inappropriate sites</p> <p>Explore what cyber-bullying means & what to do when they encounter it</p> <p>Know that if they put information online it leaves a digital footprint or "trail" & they need to manage it so it's not hurtful</p> <p>Understand that keyword searching is an effective way to locate online information & how to select keywords to produce the best search results</p> <p>Discuss criteria for rating informational websites a site.</p> <p>Realise that not all websites are equally good sources of information</p> <p>Explore what cyber-bullying means & what to do when they encounter it</p>	<p>Agree sensible e-safety rules for the classroom</p> <p>Choose a secure password for age-appropriate websites</p> <p>Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button and know where to go for help and support if they have concerns</p> <p>Talk about what games they are enjoying playing and what good choices are when playing games e.g. content, screen time</p> <p>Can identify what personal information is and understand that they should keep this private online</p> <p>Can consider others feelings on the internet</p>	<p>Agree sensible e-safety rules for the classroom</p> <p>Choose a secure password for age-appropriate websites</p> <p>Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button and know where to go for help and support if they have concerns</p> <p>Talk about what games they are enjoying playing and what good choices are when playing games e.g. content, screen time</p> <p>Can identify a number of online dangers</p> <p>Can question the 'validity' of what they see on the internet</p> <p>Can recognise appropriate and inappropriate online behaviours</p> <p>Can use technology safely, respectfully and responsibly</p>	<p>Agree sensible e-safety rules for the classroom</p> <p>Discuss their own personal use of the Internet and choices they make.</p> <p>Discuss how to protect devices from virus threats</p> <p>Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns</p> <p>Explore using the safe and responsible use of online communication tools e.g. blogs, messaging</p> <p>Can explore options for privacy levels in a range of online settings (e.g. online gaming, social media)</p> <p>Can use technology safely, respectfully and responsibly</p> <p>Create and use a class blog to share information and talk about who can see it, and how to communicate safely and respectfully</p>	<p>Agree sensible e-safety rules for the classroom</p> <p>Discuss their own personal use of the Internet and choices they make.</p> <p>Discuss how to protect devices from virus threats</p> <p>Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns</p> <p>Explore using the safe and responsible use of online communication tools e.g. blogs, messaging</p> <p>Can clearly identify levels of online risk</p> <p>Can identify and appropriately use social networking sites/features, making good judgements</p> <p>Can use technology safely, respectfully and responsibly</p>

Programming

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
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 scratch 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
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
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

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 ICT or online tool to create and share ideas.	Identify the purpose for selecting an appropriate online tool
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
Create sounds and simple music phrases using ICT 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 art programs & online tools to modify photos for a specific purpose using a range of effects	Develop skills using transitions and hyperlinks to enhance the structure of presentations	Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience
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
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 ICT tools to create musical phrases	Use ICT 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
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.	Amend text & save changes.	Use a keyboard effectively, including the use of keyboard shortcuts	Use font sizes & effects such as bullet points appropriately	Evaluate the effectiveness of their own work and the work of others
	Create sentences, SAVE & edit later	Use individual fingers to input text & use SHIFT key to type characters	Use ICT tools to create musical phrases	Know how to use a spell check	
		Amend text by highlighting & using SELECT/ DELETE & COPY/ PASTE	Use font sizes & effects such as bullet points appropriately	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	Use online tools to create and share presentations and films	

Technology in our lives

<p>Recognise uses of technology in their homes and in their community</p> <p>Understand that there are online tools that can help them create and communicate</p>	<p>Begin to understand there are a variety of sources of information and begin to recognise the differences</p> <p>Begin to understand what the Internet is and the purposes that it is used for</p> <p>Understand the different types of content on websites and that some things may not be true or accurate</p>	<p>Save work on the school network, on the Internet and on individual devices</p> <p>Talk about the parts of a computer</p> <p>Use appropriate tools to collaborate on-line</p> <p>Use appropriate tools to communicate on-line</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 computing devices. 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>Describe different parts of a computing device & how it connects to the Internet.</p> <p>Connect a computing device to a keyboard, mouse or printer</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>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Data Handling

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