

# Computing

Holy Family School has a wealth of technological resources, including iPads and a dedicated computer suite, through which we deliver the Computing curriculum. In Foundation Stage, children have access to technology where appropriate and begin their online safety journey through stories.

In Key Stage 1 children are taught what a simple algorithm is, how to create and debug simple programs and how to use logical reasoning to predict the behaviour of simple programs. At Holy Family children learn how to create, store and retrieve digital content, using technology safely and respectfully. It is imperative for us as a school to teach the children who they can go to for help if they feel uncomfortable about content they have found on the internet.

In Key Stage 2, the children learn how to solve computing problems by decomposing them into smaller parts and to explain how simple algorithms work, detecting and correcting errors in them. They also explore how computer networks function and what opportunities they offer for communication and collaboration. At Holy Family, children are taught how to use search technologies effectively and how to be discerning when evaluating digital content. Integral to the curriculum is how to engage with the digital world respectfully and responsibly: children are explicitly taught how to recognise acceptable and unacceptable behaviour and how to identify a range of ways to report their concerns about content or contact from others on the internet.





## Overview of Computing Skills

	<u>Advent 1</u>	<u>Advent 2</u>	<u>Lent 1</u>	<u>Lent 2</u>	<u>Pentecost 1</u>	<u>Pentecost 2</u>
<b>Nursery</b>	Online safety – Advent 1 and other opportunities. Interactive whiteboards, iPads and the computer suite available to use as a supplement to experiences for ELG where appropriate.					
<b>Reception</b>						
<b>Year 1</b>	Online safety Computing systems and networks – Technology around us	Creating Media - Digital Painting	Programming – Scratchjr	Programming – Espresso block coding	Programming – Moving a robot	Creating media – Digital writing
<b>Year 2</b>	Online safety Computing systems and networks – IT around us	Creating Media - Presentation skills	Programming – Scratchjr	Programming – Espresso block coding	Data and information – Pictograms	Creating media - Digital music
<b>Year 3</b>	Online safety Computing systems and networks – Connecting computers	Creating Media - Word processing skills	Programming – Scratch	Programming – Espresso block coding	Data and information – Branching databases	Creating media – stop frame animation.
<b>Year 4</b>	Online safety Computing systems and networks – The Internet	Data and information – Data logging	Programming – Scratch	Programming – Espresso block coding	Creating media - Audio production	Creating media – Photo editing.
<b>Year 5</b>	Online Safety Computing systems and networks - Systems and searching	Data and information – Spreadsheets	Programming – Scratch	Programming – Espresso block coding	Creating media - Video production	Data and information – Flat-file databases
<b>Year 6</b>	Online safety Computing systems and networks - Communication and collaboration	Creating media – 3D Modelling	Programming – Scratch	Programming – Espresso block coding	Creating media – Web page creation	Programming - Sensing movement



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online Safety	Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly.	Children can identify what things count as personal information. Agree and follow sensible online safety rules. Identify adults to seek help from when they see something that is unexpected or worrying.	Children can identify what things count as personal information, including passwords. Identify what is appropriate and inappropriate behaviour on the internet. Make good choices when using technology. Seek help from an adult when they see something that is unexpected or worrying. Know the school online safety rules.	Explain the school online safety rules. To seek help from an adult when they see something that is unexpected or worrying; To demonstrate knowledge and understanding in this strand of the terms: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, tell, safe.	To reflect on their own digital footprint and behaviour online; To identify what is appropriate and inappropriate behaviour also safe and unsafe behaviours online, recognising the term cyberbullying. To feel more confident to seek help from a trusted adult when they need it.	To protect their password and other personal information; To be a good online citizen and friend; To judge what sort of privacy settings might be relevant to reducing different risks. To seek help from an adult when they see something that is unexpected or worrying;	To protect their password and other personal information; To judge what sort of privacy settings might be relevant to reducing different risks; To seek help from an adult when they see something that is unexpected or worrying; To discuss scenarios involving online risk and cyberbullying.
Programming		Give a set of instructions to follow and predict what will happen. Improve/change their sequence of commands by debugging; Create simple algorithms. Use a range of events. -To find more than one solution to a problem.	Create a sequence of instructions. Explain a sequence has a start and an outcome. Make decisions on a sequence for a given design. Create sequences for their own design. Evaluate and improve an algorithm.	Use a new programming environment. Recognise the order of commands in a sequence has an effect. Design and create a sequence for a specific outcome.	Write a program with a specific outcome. Use when if variables to create an effect. Debug and evaluate algorithms.	Decompose a problem into smaller parts to solve. Use infinite loops and external triggers to demonstrate control. Plan, design and evaluate algorithms for a large project.	Decompose a problem into smaller parts to solve. Use conditional statements and edit variables. Continually test and debug.



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Data and Information</b>			<p>Collect data and represent in tally chart, pictogram and bar graph using an application.</p> <p>Explain the benefits of using a computer to represent data.</p>	<p>Identify attributes for objects that can lead to yes/no answers.</p> <p>Create a branching database.</p> <p>Evaluate and explain branching databases and their use.</p>	<p>Identify, explain and recognise the benefit of digital data collection.</p> <p>Use a device to collect data and present it.</p>	<p>Use keyboard shortcuts and functions to enter information onto a spreadsheet.</p> <p>Create formulas to manipulate data.</p> <p>Choose suitable ways to present data.</p> <p>Create and compare paper and electronic databases.</p> <p>Use grouping and sorting to answer questions.</p> <p>Use AND and OR to refine searches.</p>	
<b>Creating Media</b>		<p>Use a drawing program to create a digital image.</p> <p>Use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape.</p> <p>Make choices to communicate an idea</p> <p>Save work.</p>	<p>Use PowerPoint to present information and ideas.</p> <p>Add images and use a range of tools within an application.</p> <p>Make choices, save, retrieve and amend work.</p> <p>Respond to music. Use a computer to experiment with sound, pattern and rhythm.</p> <p>Use software to create a musical composition.</p>	<p>Use word to develop skills of formatting and presenting information in a range of ways.</p> <p>Create, save and manipulate text and images for a range of purposes.</p> <p>Design, create and evaluate a simple animation.</p>	<p>Identify different parts of a podcast.</p> <p>Create, edit and evaluate an audio recording.</p> <p>Use photo editing software to edit an image.</p> <p>Crop, copy, combine and alter images.</p> <p>Use images for a purpose.</p>	<p>Experiment and capture video using a range of techniques.</p> <p>Plan, shoot and edit a video using a range of editing techniques.</p> <p>Evaluate and consider the impact of choices in the filming and editing process.</p>	<p>Use online software to create a 3d model for a given purpose.</p> <p>Review existing webpages. Plan, design and create a webpage.</p> <p>Consider image and content ownership.</p>



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Computer systems and networks</b>		Identify technology. Name the parts of a computer. Use a keyboard and mouse and begin to save work.	Recognise the uses and features of information technology Identify information technology at school and beyond and how it helps us.	Explain how digital devices work and identify inputs and outputs. Explain a simple computer network.	Describe network connections and how they apply to the World Wide Web. Discuss the content on the WWW and its reliability.	To describe computer systems, inputs, processes and outputs. Explain search engines and how results are selected and ranked.	To explain the importance of internet address and how data is transferred across the internet. To recognise, use and evaluate different ways of communication and collaborating online.
	Play a touch screen game. Draw on a screen using a pen or finger. Take a picture or video with a device. Watch a picture of video back.  Select technology for a particular purpose.						