

# Progression of skills and knowledge



## Subject: Computing

**Subject Intent:** At St Mary's, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Knowledge and understanding of ICT is of increasing importance for children's future both at home and for employment. Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. These strands are revisited repeatedly through a range of themes during children's time in school to ensure the learning is embedded and skills are successfully developed. Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.

|                  |          | EYFS   | By the end of Year 1 and 2   | By the end of Year 3 and 4   | By the end of Year 5 and 6   |
|------------------|----------|--|--|--|--|
| Digital literacy | E-safety | <p><b>Digital literacy</b> Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <ul style="list-style-type: none"> <li>Is aware that we need passwords to protect our work and will use them with an adult eg: for teachers to log onto their computers or a passcode for the iPads</li> <li>Is aware of buttons and switches.</li> <li>Knows what buttons and switches do and what their purpose is eg: light switch turns on the light. A button turn the washing machine on.</li> </ul> | <ul style="list-style-type: none"> <li>Understand how to use technology safely, keeping personal information private.</li> <li>Identify where to go for help if they have concerns over their own safety</li> <li>Know that not everything online is true</li> <li>Can understand the need to keep passwords safe</li> <li>Identify where to go for help if they have Online concerns over their own safety</li> </ul> | <ul style="list-style-type: none"> <li>Understand how to keep passwords secure, make good choices online and the safety features online.</li> <li>Use technology safely, respectfully, and responsibly, recognise acceptable/unacceptable behaviour. Identify a range of ways to report online concerns or contact. (Online games)</li> <li>Can understand ways in which people communication online and the potential danger (including devices such as Xbox and other online gaming)</li> <li>Can think about the risks of sharing personal information online (including photographs) and understand the idea of a digital footprint</li> <li>Use technology safely, respectfully, and responsibly, recognise acceptable/unacceptable behaviour. Identify a range of ways to report online concerns or contact. (Online games)</li> </ul> | <ul style="list-style-type: none"> <li>Use technology safely, respectfully, and responsibly, recognise acceptable/unacceptable behaviour.</li> <li>Understand the consequences of misuse (look at social media, age restrictions on apps/games/social media and online gaming) and identify a range of ways to report online concerns or contact.</li> <li>Use technology safely, respectfully, and responsibly, recognise acceptable/unacceptable behaviour.</li> <li>Understand the consequences of misuse (look at social media, age restrictions on apps/games/social media and online gaming) and identify a range of ways to report online concerns or contact.</li> </ul> |

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|                        | Technology | <p><b>Digital Literacy</b> Recognise common uses of information technology beyond school</p> <ul style="list-style-type: none"> <li>• Can talk about what technology they have at home eg: I play on my tablet. I watch Peppa pig on the TV.</li> <li>•</li> <li>• Able to sort different pieces of technology that they may find at school and what they may find at home eg: A washing machine in the kitchen not in the classroom.</li> </ul>   | <ul style="list-style-type: none"> <li>• Use technology to store and retrieve digital content</li> <li>• Recognise uses of technology (in and beyond school)</li> </ul>  | <ul style="list-style-type: none"> <li>• I have awareness of copyright issues around images found online</li> <li>• Can understand the opportunities that networks offer for communication and collaboration (e.g., working on shared documents)</li> </ul> | <ul style="list-style-type: none"> <li>• Understand the principles of a computer network in simple terms</li> <li>• Use technology to communicate with others. (emails/social media)</li> </ul>  |
| Information technology | Multimedia | <p><b>Information technology</b> Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <ul style="list-style-type: none"> <li>• To be able to use push button books that make sounds that link to images in a book. Interested in remote controls and phones.</li> <li>• To be able to use remote controls to make toys move and begin to understand that some technology needs to be turned on and off switches</li> <li>• To begin to understand that there is lots of different types of technology all around us, lights, remotes, phones, computers, iPads etc.</li> </ul> | <ul style="list-style-type: none"> <li>• To manipulate and create digital content using technology.</li> <li>• Can identify simple mistakes in my work and evaluate and correct them</li> <li>• Can use technology purposefully to create, organise, store, manipulate and retrieve digital content (e.g. opening, editing and saving a document)</li> </ul> | <ul style="list-style-type: none"> <li>• Select, use and combine a variety of software.</li> </ul>  | <ul style="list-style-type: none"> <li>• Select, use and combine a variety of software to communicate their work.</li> <li>• Can select and combine a variety of software to achieve a long-term goal (e.g. select software to plan, design, select, present, analyse, evaluate, improve and report on a long term project)</li> </ul> |

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|                  | Handling Data | <ul style="list-style-type: none"> <li>To understand how to give instructions to make things move eg: bee bots to make them move to a certain location.</li> </ul>   | <ul style="list-style-type: none"> <li>To use technology to produce simple charts/graphs (pictograms and bar charts)</li> <li>To use technology to produce simple charts/graphs (pictograms and bar charts)</li> </ul>  | <ul style="list-style-type: none"> <li>To start to use technology to collect data, analyse, evaluate, and present data and information. (bar charts)</li> </ul>   | <ul style="list-style-type: none"> <li>Use technology to collect data, analyse, evaluate and present data and information and to answer 'What if...?' problem</li> </ul>   |
| Computer Science | Programming   | <p><b>Computer Science</b> Understand what algorithms are; how they are implemented as programs on digital devices; that programs execute by following precise and unambiguous instructions</p> <p><b>Computer Science</b> Create and debug simple programs</p> <p><b>Computer Science</b> Use logical reasoning to predict the behaviour of simple programs.</p> <ul style="list-style-type: none"> <li>To be able to follow a 1 part instruction</li> <li>To be able to follow a 2 part instruction.</li> <li>To begin to follow instructions in the correct order.</li> <li>Can understand that instructions need to go in the correct order. If you mix them up then the task will not be completed correctly. Eg: making toast- you can't butter the bread and then put it into the toaster.</li> <li>Explores toys that can move in different directions. Explores games on Mini Mash that move forwards, backwards, left and left.</li> </ul> | <ul style="list-style-type: none"> <li>Use a systematic approach to control and predict the behaviour of simple programs (e.g. control a roamer)</li> <li>Can give unambiguous instructions to a digital device to achieve a goal (e.g. controlling a roamer to reach a given destination)</li> <li>Can understand that an algorithm is a step-by-step guide to achieving a goal</li> </ul> | <ul style="list-style-type: none"> <li>I can use various inputs (e.g. keyboard presses) and outputs (e.g. playing a sound) to control a computer program (e.g. control a Scratch program with a keyboard input)</li> <li>Can explain how a program works</li> <li>Can detect and correct errors in algorithms and programs</li> <li>Can use logical reasoning to explain how some more complicated algorithms (e.g. a sequence of instructions) work</li> </ul> | <ul style="list-style-type: none"> <li>To design, write and debug* simple programs for real output, including controlling or simulating physical systems and solving problems. Write simple code to explain how the programs work.</li> <li>Use logical reasoning to explain how algorithms work and to detect and correct errors in algorithms and programs.</li> </ul> |

