St Mary's Catholic Primary School and Nursery

Computing Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Using interactive whiteboard and ipads to access age appropriate programmes and apps. Using a range of technology including torches with switches, remote controlled cars, beebots, talking tins and voice recording toys					
Reception		**Computing systems and networks: using a computer** Learning about the main parts of a computer and how to use the keyboard and mouse. Logging in and out	**Programming 1: all about instructions**. The children learn to receive and give instructions and understand the importance of precise instructions	**Computing systems and networks: exploring hardware** Tinkering and exploring with different computer hardware and learning to operate a camera	**Programming 2: programming Bee-Bots** Children learn about directions, experiment with programming a Bee-bot/Blue-bot and tinker with hardware	**Data Handling: introduction to data** Children sort and categorise data and are introduced to branching databases and pictograms
Year 1	**Computing systems and networks: Improving Mouse Skills** Learning how to login and navigate around a computer, developing mouse skills,	**Programming 1: Algorithms Unplugged** Relating algorithms, decomposition and debugging to familiar contexts, such as dressing up and making a sandwich, while learning why	**Programming 2: Bee-bots** Developing early programming skills using either the Bee:Bot or virtual Bee:Bot.	**Creating Media: Digital Imagery** Using creativity and imagination to plan a miniature adventure story and capture it using developing photography skills.	**Data Handling: Introduction to Data** Learn what data is and the different ways that it can be represented and developing an understanding of why data is useful, how it can be used and	**Skills Showcase: Rocket to the Moon** Developing keyboard and mouse skills through designing, building and testing individual rockets by creating a digital list

	Computer hardware – what is is and that it is made up of different components Learning how to drag, drop, click and control a cursor to create works of art inspired by Kandinsky and self-portraits.	instructions need to be very specific.		Learn to enhance photos using a range of editing tools as well as searching for and adding other images to a project, resulting in a high-quality photo collage showcase.	ways in which it can be gathered and recorded both by humans and computers.	of materials, using drawing software and recording data.
Year 2	**Computing systems and networks: What is a computer?** Identifying what a computer is by learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention.	**Programming 1: Algorithms and Debugging** Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops.	**Computing systems and networks: Word Processing** Learn about word processing and how to stay safe online as well developing touch typing skills. Introduce important keyboard shortcuts, as well as simple editing tools within	**Programming 2: ScratchJnr** Explore what 'blocks' do, using the app 'ScratchJr,' by carrying out an informative cycle of predict > test > review Programme a familiar story and an animation of an animal, make their own musical	**Creating Media: Stop Motion** Storyboarding and simple animation creation using either tablet devices or devices with cameras.	**Data Handling: International Space Station** Using the International Space Station (ISS) real-world setting to explore how data is collected, used and displayed as well as the scientific learning of the conditions needed for plants and

			a word processor including: bold, italics, underline and font colour as well as how to import images.	instrument by creating buttons and recording sounds and follow an algorithm to record a joke.		animals, including humans, to survive.
Year 3	**Computing systems and networks 1: Networks and the Internet** Introduction to the concept of networks, learning how devices communicate. Identifying components, learning how information is shared and exploring examples of real-world networks.	**Programming: Scratch** Building on the use of the 'ScratchJr' application in Year 2, progress to using the more advanced computer-based application called 'Scratch', learning to use repetition or 'loops' and building upon skills to program; an animation, a story and a game	**Computing Systems and Networks 2: Emailing** Learning how to send emails with attachments and how to be a responsible digital citizen by thinking about the contents of what is sent.	**Data Handling: Comparison Cards Databases** Using the theme of a 'Comparison cards game' (based on the popular game, Top Trumps), to understand what a database is by learning the meanings of records, fields and data. Further exploration will lead to the development of the ideas of sorting and filtering.	**Computing Systems and Networks 3: Journey Inside a Computer** Assuming the role of computer parts and creating paper versions of computers to consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models	**Creating Media: Video Trailers** Developing filming and editing video skills through the storyboarding and creation of book trailers.
Year 4	**Programming 1: Further coding with Scratch**	**Data Handling: Investigating Weather**	**Creating Media: Website Design**	**Programming 2: Computational Thinking**	**Computing Systems and Networks:**	**Skills Showcase: HTML**

	Using variables in coding.	Researching and storing data using spreadsheets; designing a weather station that gathers and records data; learning how weather forecasts are made and using green screen technology to present a weather forecast.	Developing research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages.	Plugged and unplugged activities to develop the four areas of computational thinking	**Collaborative Learning** Working collaboratively in a responsible and considerate way as well as looking at a range of collaborative tools.	Editing the HTML and CSS of a web page to change the layout of a website and the text and images
Year 5	**Computing systems and networks: Search Engines** Using keywords and phrases, identifying inaccurate information, learning page rank works as well.	**Creating Media: Stop Motion Animation** Storyboarding ideas, taking photographs and editing to create a video animation	**Programming 1: Music** Applying programming skills to create sounds and melodies leading to a battle of the bands performance	**Programming 2: Micro:Bit** The meaning and purpose of programming	**Data Handling: Mars Rover 1** Data transfer and binary code	**Skills Showcase: Mars Rover 2** 3D design skills
Year 6	**Computing systems and networks: Bletchley Park**	**Programming: Intro to Python**	**Data Handling 1: Big Data 1** Barcodes, QR codes and RFID	**Creating Media: History of Computers**	**Data handling 2: Big Data 2** Data usage and smart schools	**Skills Showcase: Inventing a Product**

St Mary's Catholic Primary School and Nursery

Computing Curriculum Map

	Code breaking and password hacking	Using the programming language of Python		Children write, record and edit radio plays set during WWII, look back in time at how computers have evolved and design a computer of the future.		Designing a product, pupils: evaluate, adapt and debug code to make it suitable and efficient for their needs; use a software program to design their products; create their own websites and video adverts to promote their inventions.