Wraysbury Primary School Curriculum Overview: Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Offered as part of daily 'Continuous Provision'– following children's interests					
Year 1	**Computing Systems and Networks: Improving Mouse Skills** Children will learn how to login and navigate around a computer, develop mouse skills, learn how to drag, drop, click and control a cursor to create works of art inspired by Kandinsky and self-portraits	**Creating Media digital Imagery** Children will learn how to use creativity and imagination to plan a miniature adventure story and capture it using developing photography skills. They will 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	**Skills Showcase: Rocket to the Moon** Children will learn how to develop keyboard and mouse skills through designing, building and testing individual rockets by creating a digital list of materials, using drawing software and recording data	**Programming 1 Algorithms unplugged** Children will learn that algorithms, decomposition and debugging are made relatable to familiar contexts, such as dressing up and making a sandwich, whilst learning why instructions need to	**Programming 1 Programming Bee-bots:** Children will learn how to develop early programming skills using the Bee-Bot	**Data Handling: Introduction to data** Children will 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 ways in which it can be gathered and recorded both by humans and computers
	Online Safety					
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Year 2	**Computing Systems and Networks 1: What is a computer?** Children will learn what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention	**Computing Systems and Networks 2: Word Processing** Children will learn what is Word processing and how to stay safe online as well developing touch typing skills. Important keyboard shortcuts, as well as simple editing tools within a word processor including: bold, italics, underline and font colour as well as how to import images.	**Programming 1: Algorithms and debugging** Children will learn how to develop an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops	**Programming 2: Scratch Jnr** Children will learn to explore what 'blocks' do, using the app 'Scratch Jr,' by carrying out an informative cycle of predict > test > review, programme a familiar story and an animation of an animal, make their own musical instrument by creating buttons and recording sounds and follow an algorithm to record a joke	**Creating Media: Stop Motion** Children will learn how to make Storyboards and simple animation creations using either tablet devices or devices with cameras	**Data Handling: International Space Station** Children will learn about The International Space Station (ISS) and how it is a fascinating real-world setting for teaching how data is collected, used and displayed as well as the scientific learning of the conditions needed for plants and animals, including humans, to survive.

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Year 3	**Computing Systems and Networks 1: Networks and the Internet** Children will be introduced 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** Children will continue to Build on the use of the 'Scratch Jr' 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** Children will learn how to send emails with attachments and how to be a responsible digital citizen by thinking about the contents of what is sent.	**Computing Systems and Networks 3: Journey inside a Computer** Children will learn about computer parts and create their own paper versions of computers to help consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models	**Creating Media: Video Trailers** Children will learn how to Develop filming and editing video skills through the storyboarding and creation of book trailers.	**Data Handling: Comparison Cards Databases** Children will learn how to use 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
	Online Safety – we're doing this in Summer 2					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 4	**Computing Systems and Networks:** Children will learn how to Work collaboratively in a responsible and considerate way as well as looking at a range of collaborative tools.	**Programming 1: Further coding with Scratch** Children will learn how to use decomposition to identify key features and understand how to decipher actions that make the quiz game work. They will also learn how to create a simple script in Scratch and add or change a sprite and prevent it from rotating.	**Programming 2: Computational Thinking** Children will learn how to use plugged and unplugged activities to develop the four areas of computational thinking	**Data Handling: Investigating Weather** Children will learn how to research and store data using spreadsheets; design a weather station that gathers and records data; learn how weather forecasts are made and use green screen technology to present a weather forecast.	**Creating Media: Website Design** Children develop their 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	**Skills Showcase: HTML** Children will learn how to edit the HTML and CSS of a web page to change the layout of a website and the text and images
	Online Safety					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 5	**Computing Systems and Networks: Search Engines** Children will learn how to use keywords and phrases, identifying inaccurate	**Programming 1: Programming Music (Sonic Pi/Scratch)** Children will learn how to Apply programming skills to create sounds and	**Data Handling: Mars Rover 1** Children will learn how to transfer data and use binary code. Children will read binary numbers, and	**Skills Showcase: Mars Rover 2** Children will learn how to create 3D designs. Children will learn about pixels and binary, creating a pixel	**Programming 2: Micro bit** Children will learn the meaning and purpose of programming. Children will create animations,	**Creating Media: Stop Motion animation** Children will learn how to Storyboard ideas, take photographs and edit

	information, learning page rank works as well.	melodies leading to a battle of the bands performance	understand binary addition as well as identifying input, processing and output on the Mars Rovers.	picture and saving a JPEG as a bitmap to understand the transfer of image data. Children will learn about the 'fetch, decode, execute' cycle and its real-world applications while beginning to use 3D design tools	recognise inputs/outputs, choose appropriate blocks, and break programs down into smaller steps.	them to create a video animation
	Online Safety					
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Year 6	**Programming: Introduction to Python** Children will learn how to use the programming language of Python. Children will use loops and explain what repeats do and what the parts of the loop do while recognising that computers choose random numbers and decompose the program into an algorithm.	**Computing Systems and Networks: Bletchley Park** Children will learn how to use code breaking and password hacking. Children will produce a simple audio advert with simple edits, which demonstrate an understanding of how to use the software.	**Data Handling: Big Data 1** Children will learn how to use Barcodes, QR codes and RFID. Children will create and scan their own QR codes, manipulate real-time data in spreadsheets, and present their findings. They also analyse transport data to understand its usefulness to commuters.	**Creating Media: History of Computers** Children will learn how to 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.	**Data Handling Big Data 2** Children will study data usage and smart schools. Children will understand data usage through the use of mobile data vs WiFi, the Internet of Things, and big data. They will identify high/low data activities and prepare presentations on using Big Data/IoT to improve school efficiency while respecting privacy	**Skills Showcase: Inventing a Product** Children will learn how to Design 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.
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