

Primary - Computing

	Autumn		Spring		Summer	
	MYSELF		RELATIONSHIPS		STAYING SAFE	
	1 st Half Term	2 nd Half Term	1 st Half Term	2 nd Half Term	1 st Half Term	2 nd Half Term
Year 3	Computing systems and networks : Networks <p>Networks Introduction to the concept of networks, learning how devices communicate. From identifying components, learn how information is shared and deepen this understanding by exploring examples of real-world networks</p> <ul style="list-style-type: none"> • What is a network? • A file's journey • How a website works • Routers • What is packet data? 	Programming: Scratch Jr <p>Building on the use of the 'Scratch Jr' application in Year 2, progressing to using the more advanced application called 'Scratch', learning to use repetition or 'loops' and building upon skills to program an animation, a story and a game</p> <ul style="list-style-type: none"> • Tinkering with Scratch • Using loops • Making an animation • Storytelling • Programming a game 	Computing systems and networks : Emailing <p>Emailing Learning how to send and edit emails, add attachments and how to be a responsible digital citizen by thinking about the contents of what is sent.</p> <ul style="list-style-type: none"> • Communicating with technology • Sending an email • Adding attachments • Be kind online • Fake emails 	Computing systems and networks : Inside a computer <p>Journey inside a computer Assuming the role of computer parts and creating paper versions of computers helps to consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models.</p> <ul style="list-style-type: none"> • Inputs and outputs • Building a paper laptop • Following instructions • Computer memory • Dismantling a tablet 	Computing systems and networks : Word processing <p>Learning about word processing and how to stay safe online as well developing touch typing skills. Introducing 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</p> <ul style="list-style-type: none"> • Getting to know the keyboard • Getting started with word processing • Newspaper writer • Poetry book • Digital writer 	Online safety: Year 3 <p>Learning about online safety; 'fake news', privacy settings, ways to deal with upsetting online content, protecting our personal information on social media.</p> <ul style="list-style-type: none"> • Beliefs, opinions and facts on the internet • Who should I ask? • When being online makes me upset • Sharing of information • Rules of social media • platforms

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Year 4	Computing systems and networks: Collaborative learning Working collaboratively in a responsible and considerate way as well as looking at a range of collaborative tools.	Programming : Further coding with Scratch Learning the basics of programming in Scratch, children will create a simple script, use decomposition and understand what variables are	Creating media: Website design Developing 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 Editing the HTML of a web page to change the layout of a website and the text and images.	Programming : Computational thinking Developing the four areas of computational thinking through a range of plugged and unplugged activities.	Online safety: Year 4 Learning how to navigate the internet in an informed, safe and respectful way.
	<ul style="list-style-type: none"> Teamwork Sharing a document Microsoft Forms 1 Microsoft Forms 2 Shared spreadsheets 	<ul style="list-style-type: none"> Scratch reminder Identifying what code does Introduction to variables Making a variable Times tables project 	<ul style="list-style-type: none"> Getting to know Microsoft Sway Book review webpage Adding features Planning my website Creating my website 	<ul style="list-style-type: none"> What is HTML? Remixing HTML HTML unplugged Website hacking Replacing images 	<ul style="list-style-type: none"> What is computational thinking? Decomposition Abstraction and pattern recognition Algorithm design Applying computational thinking 	<ul style="list-style-type: none"> What happens when I search online? How do companies encourage us to buy online? Fact, opinion or belief? What is a bot? What is my #TechTimetable like?

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Year 5	Computing systems and networks: <p>Search engines Research skills and finding accurate information</p>	Programming 1: Music <p>Applying programming skills to create sounds and melodies leading to a battle of the bands performance.</p>	Data handling: Mars Rover 1 <p>Identifying some of the types of data that the Mars Rover collects and explaining how the Mars Rover transmits the data back to Earth. Children will read binary numbers, and understand binary addition as well as identifying input, processing and output on the Mars Rovers.</p>	Creating media: Stop motion animation <p>Storyboarding ideas, taking photographs and editing to create a video animation.</p>	Skills showcase: Mars Rover 2 <p>Learning about pixels and binary, creating a pixel 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.</p>	Online safety: Year 5 <p>Learning about potential online dangers and safety.</p>
	<ul style="list-style-type: none"> Searching basics Inaccurate information Web quest Information poster Web crawlers 	<ul style="list-style-type: none"> Tinkering with Sonic Pi Sonic soundtracks Musical storytelling Live loops Battle of the bands 	<ul style="list-style-type: none"> Mars Rover Binary code Computer architecture Using binary – numbers Using binary – text 	<ul style="list-style-type: none"> Animation explored Exploring stop-motion Planning my stop-motion project Stop motion creation Editing my stop motion project 	<ul style="list-style-type: none"> Pixels Compressing images Fetch, decode, execute Tinkering with CAD Tinker CAD tutorials 	<ul style="list-style-type: none"> Online protection Online communication Online reputation Online bullying Online health

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Year 6	Computing systems and networks: Bletchley Park	Programming: Intro to Python	Data handling 1: Big Data 1	Creating media: History of computers	Data handling 2: Big Data 2	Online safety: Year 6
	<p>Discovering the history of Bletchley Park, historical figures, and computer science. Children learn about code-breaking and password hacking as well as decoding messages. Children present information about historical figures.</p> <ul style="list-style-type: none"> Secret codes Brute force hacking Bletchley Park Computing heroes 	<p>Learning the fundamentals of the programming language of Python, they will test, change and explain what their program does. Children 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.</p> <ul style="list-style-type: none"> Tinkering with Logo Nested loops Using Python Using loops in Python Coding Mondrian 	<p>Understanding about the use of big data including barcodes, QR codes, infrared, and RFID technologies. 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.</p> <ul style="list-style-type: none"> Barcodes Transmitting data RFID Using RFID Transport data 	<p>Writing, recording and editing radio plays set during WWII, looking back in time at how computers have evolved and designing a computer of the future.</p> <ul style="list-style-type: none"> Playing with sound Radio plays First computers Computers that changed the world Future computer 	<p>Understanding data usage through the use of mobile data vs WiFi, the Internet of Things, and big data. Identifying high/low data activities and preparing presentations on using Big Data/IoT to improve school efficiency while respecting privacy.</p> <ul style="list-style-type: none"> Transferring data Data usage The Internet of Things Designing a smart school Smart school presentation 	<p>Learning how to navigate the internet in an informed, safe and respectful way.</p> <ul style="list-style-type: none"> Life online Sharing online Creating a positive online reputation Capturing evidence Password protection Think before you click