

Curriculum Overview: Computing



	Autumn 1	Spring 1	Spring 2	Summer 1	Summer 2
N	Technology Around Us Exploring everyday technology found in the classroom and home (e.g., buttons, switches, tablets, and interactive screens). Understanding that technology helps people and recognising when it is being used for different purposes.	Following Instructions Developing early computational thinking by following and giving simple, real-world instructions (e.g., “first... then...”). Using directional and sequencing language through play and movement to build foundations for later programming.		Using Digital Tools Exploring age-appropriate digital devices such as tablets or interactive whiteboards to draw, mark-make, or take simple photos. Learning to handle equipment carefully and begin understanding how digital content can be created and shared.	
R	Computing systems and networks 1: Using a computer Learning about the main parts of a computer and how to use the keyboard and mouse. Logging in and out	Online Safety: Reception UK Safer Internet Centre / Childnet – Smartie the Penguin. Seeing upsetting content, unreliable information, and being asked for personal information. Advert’s, searching online, and online bullying.	Programming 1: All about instructions The children learn to receive and give instructions and understand the importance of precise instructions	Computing systems and networks 2: Exploring hardware Tinkering and exploring with different computer hardware and learning to operate a camera	Data handling: Introduction to data Children sort and categorise data and are introduced to branching databases and pictograms
1	Computing systems and networks: Improving mouse skills Knowing how to log in and navigate around a computer, developing mouse skills, learning how to drag, drop, click and control a cursor to create works of art inspired by Kandinsky and self-portraits.	Online safety: Year 1 Learning about online safety, including using useful tips to stay safe when online; how to manage feelings and emotions when someone or something has upset us online; learning about the responsibility we have as online users; exploring the idea of a ‘digital footprint’.	Programming 1: Algorithms unplugged Using an unplugged approach so that algorithms, decomposition and debugging are made relatable to familiar contexts, such as dressing up and making a sandwich, while learning why instructions need to be very specific.	Creating media: Digital imagery Using creativity and imagination to plan a miniature adventure story and capture it using developing photography skills. 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.	Programming 2: Digital Bee-Bots Exploring commands, instructions and errors, the children program a digital Bee-Bot, practise debugging and begin thinking logically about sequencing.
2	Computing systems and networks 1: What is a computer? Exploring what a computer is by identifying and learning how inputs and outputs work. Understanding how computers are used in the wider world, children design their own computerised invention.	Online safety: Year 2 Learning about online safety, including: what happens to information posted online; how to keep things private online; who we should ask before sharing online; describing different ways to ask for, give, or deny permission online.	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 through a range of unplugged and plugged-in activities.	Data handling: International Space Station Learning how astronauts survive on the ISS, including identifying necessary items, designing sensor displays and exploring habitable planets. Children gain an understanding of living in space and how space exploration can benefit life on Earth.	Programming 2: MakeCode Using ‘MakeCode’ to explore what blocks do, planning and building a program.
3	Computing systems and networks: 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	Online safety: Year 3 Learning about online safety: ‘fake news’, privacy settings, ways to deal with upsetting online content, protecting our personal information on social media.	Computing systems and networks: 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.	Video trailers – Using devices other than iPads Digital media creation through the production of a book trailer. Understanding the purpose of a trailer, planning using a storyboard, and applying effective camera angles. Importing and editing photos and videos, record and add sound, include text and transitions, and evaluate own and others’ finished trailers to make refinements.	Programming: Scratch Using loops to program an animation, a story and a game in Scratch, the children explore repetition in code, develop their programming skills, build confidence through guided videos and apply their learning in creative projects.
4	Google: Computing systems and networks: Collaborative learning Developing digital collaboration and data-handling skills. Working thoughtfully on shared documents, using and resolving comments, and presenting information effectively through varied slide styles, images, and transitions. Google Forms with different question types, then analyse the collected data by exporting it to a spreadsheet, applying formatting, and using basic formulas to calculate averages and sums.	Online safety: Year 4 How to search for information effectively and critically across multiple platforms, recognising reliability and bias. Methods used in online advertising and persuasion, the differences between fact, opinion, and belief, and the role of bots online. Impact of technology use, identifying both benefits and distractions, simple strategies for managing screen time.	Programming: Further Scratch Designing and building interactive games in Scratch. Variables, sensing blocks, and if/else statements to control actions and track scores. Creating and debugging code, combining variables and sensors to develop a multiplication game, and evaluating outcomes to identify strengths and improvements.	Data handling: Investigating weather Researching and storing data using spreadsheets, designing a weather station which gathers and records data and learning how weather forecasts are made. Children use tablets or digital cameras to present a weather forecast.	Computational thinking Computational thinking as a structured approach to problem-solving. Key concepts of decomposition, abstraction, pattern recognition, and algorithm design, showing how each helps to simplify complex tasks. Design and justify algorithms, create logical sequences to complete projects, and apply computational thinking to code, test, and evaluate work effectively.
5	Computing systems and networks: Search engines Developing effective online research and information literacy skills. Search engines, how they work, and how to use keywords and the TASK strategy to find reliable information. Importance of checking accuracy and recognising that not everything online is true. The unit also covers copyright and fair use when combining text and images, and draws parallels between searching for books and using web crawlers to understand how search results are ranked.	Online safety: Year 5 Developing awareness of online safety and responsible digital behaviour. Strong passwords, different forms of online communication, and knowing where to seek help. Online information about people, understand that bullying can happen both online and offline, and recognise how digital activity can impact health and well-being. Practical strategies for maintaining positive online habits and reducing negative effects.	Data handling: Mars Rover 1 How data and computing concepts are used in space exploration, focusing on the Mars Rover. Types of data collected, how information is transmitted back to Earth, and the challenges of remote communication. Input, processing, and output systems, understand binary numbers and Boolean logic, practise adding binary values, and relate binary to ASCII as a way of representing characters digitally.	Stop-motion animation – Stop Motion Studio Fundamentals of stop-motion animation. Creating simple animated toys and short sequences with gradual changes between images. Plan a story by breaking it into smaller parts using a storyboard, refine models for smooth motion, edit work by removing unnecessary frames. The unit also includes adding effects such as titles and extensions, and giving constructive feedback on others’ animations.	Programming 1: Music Creative coding through music in Scratch. How sound blocks, loops, and nested loops can be used to compose and enhance digital soundtracks. Predict and test the effects of different code blocks, decompose and remix existing programs, and use debugging to fix errors. How loops simplify programming and how structured coding can create rhythmic and musical patterns.
6	Programming: Intro to Python 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.	Online safety: Year 6 Staying safe, respectful, and responsible online. Situations that may cause worry or discomfort and outlines ways to seek help. Effects of sharing content online, the importance of consent, and how digital reputation is formed. Recognising and responding to online bullying, protecting personal information through secure passwords and two-factor authentication, identifying scams, and maintaining privacy by keeping software and settings up to date.	Computing systems and networks: Bletchley Park and the history of computers Exploring code-breaking at Bletchley Park, historical figures in computing, the evolution of computers, designing a computer of the future and creating an audio advert, this unit combines lessons from archived content while retaining the progression and skills previously covered in two separate units.	Data handling 1: Big Data 1 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.	Computing systems and networks: Exploring AI Exploring what AI is and how it generates text, images and code, as well as learning about creating and refining prompts to improve AI responses while also considering the ethical implications of AI and its potential to replace human roles.