



Computing Curriculum Map

	Autumn Term		Spring Term		Summer Term	
EYFS	Computing through continuous provision	Using a computer Learning about the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.	All about instructions The children learn to receive and give instructions and understand the importance of precise instructions.	Exploring hardware Tinkering and exploring with different computer hardware and learning to operate a camera.	Programming Bee-Bots Children learn about directions, experiment with programming a Bee-Bot and tinker with hardware.	Introduction to data Children sort and categorise data and are introduced to branching databases and pictograms.
Key vocabulary		computer, computer safety, cursor, drag, drop, keyboard, left click, letters, lock, log in, log out, lowercase, monitor, mouse, numbers, password, personal, protects, right click, secure, security, stamp, type, uppercase	adjective, algorithm, debug, follow, give, instructions, predict, prediction, run, sequence, shuffle, skip, timer, two-part instructions	batteries, camera, capture, digital camera, digital clock, hard-drive, keyboard, lens, memory, mobile phones, monitor, motherboard, mouse, remote control, speaker, tablets, technology, tinker, USB stick, walkie-talkies.	algorithm, Bee-Bot, debug, directions, instructions, program, sequence	branch database, categorise, column, count, data, graph, in total, least popular, most popular, less, more, pattern, pictogram.
Year 1	Improving mouse skills Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art.	Algorithms unplugged Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific.	Rocket to the moon Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.	Programming Bee-Bots Exploring programming commands and instructions through the use of a Bee-Bot.	Digital imagery Taking and editing photos, searching for and adding images to a project.	Introduction to data Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.

Prior Learning	Can log in and control a cursor (EYFS).	Understands instructions must be in order (EYFS).	Can create simple digital work and save it (EYFS).	Uses Bee-Bot commands (forwards/turn) (EYFS).	Can take photos and use images digitally (EYFS).	Sorts and records data in simple charts (EYFS).
Key vocabulary	account, clipart, computer, duplicate, layers, tool	chunks, code, computer decompose, input, manageable order, organise, output, solution, specific, tasks, virtual assistant	annotate, cells, components, create, data, designing, digital content, digital image, document, e-document, edit, editing software, editing program, evaluate, folder, save, share, software, spreadsheet, table	Bee-Bot, demonstration, explore, filming, inputting, pause, predict, program, review, test, tinker, video	background, blurred, camera, crop, device, digital camera, download, edit, filter, image, import, internet, keyword, online, photograph, resize, save as, search engine, storage space, visual effects	bar chart, block graph, branching database, categorise, chart, compare, count, data, data collection, data record, data representation, pictogram, pie chart, process, sort, tally, values
Online safety	Learning: how to stay safe online and how to engage feelings and emotions when someone or something has upset us. Key vocabulary: digital footprint, feelings, going online, personal information, pop-up, posting online, report, screen time, sharing online, stranger					
Year 2	What is a computer? Exploring what a computer is by identifying how inputs and outputs work. How computers are used in the wider world to design their own computerised invention.	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.	Word processing Developing touch typing skills, learning keyboard shortcuts and simple editing tools.	Introduction to block coding Exploring Microsoft MakeCode, planning and building a program.	Stop Motion Learning how to create simple animations from storyboarding creative ideas.	International Space Station Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.
Prior Learning	Understands a computer has inputs and outputs (Y1).	Understands algorithms and can debug simple errors (Y1).	Can type and edit text using basic tools (Y1).	Can create a simple block program (Y1).	Understands animation is made from still images (Y1).	Can enter and read data in tables/charts (Y1).
Key vocabulary	battery, desktop, digital content, digital recorder, electricity, laptop, monitor, scanner, screen, system, technology, video	abstraction, artificial intelligence, key features, loop, unnecessary	back button, backspace, bold, copy, copyright, cut, forward button, highlight, italic, layout, navigate, paste, redo, space bar, text, text effects, touch typing, underline, undo, word processing	algorithm, bug, debug, programming, sequence, block coding, micro:bit, MakeCode	animation, animator, background, digital device, drawing, flipbook, frames, moving images, opinion skinning, still images, object, plane	astronaut, column, essential, experiment, Goldilocks zone, interactive map, input, row, satellite, space, spreadsheet, survival, temperature, thermometer.
Online safety	Learning: how to keep information safe and private online, who we should ask before sharing things online and how to give, or deny, permissions online. Key vocabulary: accepting, consent, denying permission, fake, giving permission, offline, pop-up, pressure, reliable, source, trusted adult					
Year 3	Networks Learning what a network and how	Scratch	Emailing Sending emails using Microsoft Office 365 and	Journey inside a computer	Video trailers Developing digital video skills to create trailers,	Comparison cards databases

	devices communicate and share information.	Exploring the programme Scratch to program an animation.	understanding what cyberbullying is.	Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a compute works.	with special effects and transitions.	Learning about records, fields and data and sorting and filtering data.
Prior Learning	Knows the internet connects devices (Y2).	Can create simple programs using Scratch blocks (Y2).	Understands safe online communication (Y2).	Knows computers have internal parts with roles (Y2).	Can record and edit video content (Y2).	Understands databases store and organise data (Y2).
Key vocabulary	device, internet, network, router, server, the cloud, Wi-Fi	application, code, debug, decompose, program, Scratch	attachment, bcc (blind carbon copy), compose, cyberbullying, domain, download, email, account, emoji, inbox, reply, responsible digital citizen, spam, username, virus	CPU (central processing unit), disassemble, GPU (graphics processing unit), hard drive, HDD (hard disk drive), QR code, RAM (random access memory), ROM (read only memory), storage	clip, film editing software, graphics, sound effects, time code, trailer, transition, voiceover, cross blur, crossfade, cross zoom	Excel, fields, filter, interpret, PDF (portable document format), questionnaire
Online safety	Learning: the difference between fact, opinion and belief; and how to deal with upsetting online content. Knowing how to protect personal information online. Key vocabulary: age restrictions, autocomplete, belief, charity, fact, fake news, opinion, social media platforms					
Year 4	Collaborative learning Learning how to work collaboratively and exploring a range of collaborative tools, using Microsoft Office.	Further coding with Scratch Revisiting the key features of Scratch and programming a game.	Website design Learning how web pages and sites are created and how to embed media and links.	HTML Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website.	Computational thinking Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.	Investigating weather Researching and storing data on spreadsheets and designing a weather station.
Prior Learning	Can use shared tools to work with others (Y3).	Can use Scratch to build interactive programs (Y3).	Knows websites include pages, links and media (Y3).	Understands webpages are built using code (Y3).	Uses decomposition/patterns to solve problems (Y3).	Records, sorts and compares spreadsheet data (Y3).
Key vocabulary	average, collaboration, contribution, edited, format, freeze, insert, multiple choice, numerical data, presentations, reviewing comments, slides, spreadsheets, suggestions, survey	conditional statement, coordinates, feature, negative number, orientation, position, script, sprite, stage, variable	assessment, audience, design, embed, hyperlinks, progress, web page, design view, Microsoft Sway, stack, storyline view, transform, web browser	CSS (cascading style sheets), end tag, hacker, heading, HTML (hypertext markup language), HTML tags, internet browser, start tag, URL (uniform resource locator), web page	computational thinking, debug, logical, pattern, recognition, relevant, remixing	climate zone, forecast, filming, heat sensor, lightning, measurement, presenter, rain, script, sensor data, solar panel, tornado, weather, weather forecast, wind speed

Online safety	<p>Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting.</p> <p>Key vocabulary: accuracy, ad, advantage, advertisement, belief, bot, hashtag, implications, in-app purchases, influencer, recommendation, screen time, search results, snippets, sponsored, trustworthy</p>					
Year 5	Search engines Learning about how page rank works and how to identify inaccurate information.	Programming: Music Building on programming and music skills to create different sounds, beats, and melodies by using nested loops to create rhythms and making a soundtrack.	Mars Rover Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.	BBC micro:bit Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims.	Stop motion animation Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.	Mars Rover 2 Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.
Prior Learning	Knows search results are ranked and not always true (Y4).	Uses loops and repetition in programs (Y4).	Understands data is transmitted digitally (Y4).	Programs and debugs code to meet a goal (Y4).	Plans and creates stop-motion animation (Y4).	Understands computers store and process data (Y4).
Key vocabulary	appropriate, credit, data leak, deceive, fair, inappropriate, incorrect, index, keywords, privacy, rank, real, TASK, web crawler	adapt, basic command, beat, code, pitch, soundtrack, tempo	8-bit binary, addition, ASCII, binary code, Boolean, byte, CPU, data, data transmission, Hexadecimal, Mars Rover, radio signal, RAM signal, simulation	app, Bluetooth, conditional statement, Micro:bit, outputs, pairing, pedometer, polling, reset, sabotage, scoreboard, systematic, tinkering, USB	animator, character, flip book, fluid movement, frames, model, thaumatrope, zoetrope	3D, binary image, CAD, compression, 'Fetch, decode, execute', ID card, JPEG, operating system, pixels, RGB, ROM, safe
Online safety	<p>Learning about app permissions: the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing.</p> <p>Key vocabulary: accurate, advice, bullying, communication, judgement, meme, mental health, mindfulness, positive/negative contribution, online, real world, strong password, support</p>					
Year 6	Bletchley Park and the history of computers Discovering the history of Bletchley Park, historical figures and the importance of code breaking and passwords. Designing a computer of the future and creating an audio advert for their designs.	Exploring AI Exploring what AI is and how it generates text, images and code. 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.	Big data Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.	Into to Python Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.	Big data 2 Further developing understanding of how networks and the Internet can share information. Learning how big data can be used to design smart buildings.	Inventing a product Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video.
Prior Learning	Understands computing has changed over time (Y5).	Knows strong passwords and codebreaking concepts (Y5).	Understands barcodes/QR codes store data (Y5).	Can write and debug simple text-based code (Y5).	Understands networks share data and services (Y5).	Can design and evaluate digital products (Y5).

Key vocabulary	acrostic code, brute force hacking, Caesar cipher, chip and PIN system, cipher, date shift cipher, Nth Letter Cipher, pigpen cipher, scrambled	AI, AI generated image, AI generated text, ethical, rebuttal	barcode, chip, contactless, encrypt, infrared, proximity, QR scanner, RFID, systems analyst, transmission	indentation, random, remix, shape	GPS, Internet of Things, revolution, SIM, Smart city, Smart school, threat	abstraction, advert, electronic, image rights, input, product, screenshot, selection, structure
Online safety	<p>Learning to deal with issues online' about the impact and consequences of sharing information online; how to develop a positive online reputation; combating and dealing with online bullying and protective passwords.</p> <p>Key vocabulary: anonymity, antivirus, biometrics, block, digital personality, financial information, malware, phishing, reliable source, scammers, screengrab, screenshot, software update, two-factor authentication</p>					