Computing progression of knowledge, skills and vocabulary
EYFS, KS1 and KS2

	Units of work	Key knowledge	Key skills	Key vocabulary
2-plus	• **Computing-related opportunity 1:** Technology we use at school and home • **Computing-related opportunity 2:** Listening to music through technology • **Computing-related opportunity 3:** Photos / Reading favourite stories • **Computing-related opportunity 4:** Mechanical toys • **Computing-related opportunity 5:** Mechanical toys • **Computing-related opportunity 6:** Transporting water	• Recognise technology that is used at home and in school • Anticipate repeated sounds, sights and actions – e.g., when an adult demonstrates an action toy several times	• Seek to acquire basic skills in turning on and operating some digital equipment • Operate mechanical toys, e.g., turn the knob on a wind-up toy or pull back on a friction car • Play with water to investigate "low technology" such as washing and cleaning • Use pipes, funnels and other tools to carry/transport water from one place to another	*Computing vocabulary used during the academic year:* computer, iPad, mobile phone, light switch, washing machine, fridge, TV, remote control, toaster, kettle, microwave, button, flap, light, push, press, turn, switch
Nursery	**<u>Year A</u>** • **Computing-related opportunity 1:** Photos / Class Dojo • **Computing-related opportunity 2:** Technological construction toys • **Computing-related opportunity 3:** Recording and playing back music performances • **Computing-related opportunity 4:** Cause and effect materials (floating/sinking, boats, telescopes) • **Computing-related opportunity 5:** Toy tills and scanners / Visiting the shop • **Computing-related opportunity 6:** Remote control toys / Bee-Bots	• Know how to operate simple equipment, e.g., turn on a CD player, use a remote control, navigate touch-capable technology with support • Know that information can be retrieved from digital devices and the internet	• Show an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets • Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements, or new images • Play with a range of materials to learn cause and effect, for example, make a string puppet using dowels and string to suspend the puppet	**<u>Years A and B</u>** *Computing vocabulary used during the academic year:* computer, iPad, mobile phone, light switch, washing machine, fridge, TV, remote control, toaster, kettle, microwave, Bee-Bot, shopping till, scanner, barcode, button, flap, light, push, press, turn, switch, record

	<u>Year B</u> • **Computing-related opportunity 1:** Photos / Digital self-portrait drawings • **Computing-related opportunity 2:** Technological construction toys • **Computing-related opportunity 3:** Recording and playing back music performances • **Computing-related opportunity 4:** Recording and playing back small-world play scenes • **Computing-related opportunity 5:** Emergency vehicles / Walkie-talkies • **Computing-related opportunity 6:** Remote control toys / Bee-Bots			
Reception	• **Mini-theme 1:** Communication between home and school via Class Dojo / Letter formation practice on a screen • **Mini-theme 2:** Everywhere Bear – photos from home / Researching bear facts • **Mini-theme 3:** Researching recipes / Finding out where our food comes from • **Mini-theme 4:** Emails to and from the 3 Little Pigs / Filming story retellings • **Mini-theme 5:** Photos on nature walks / Symmetrical drawing program - butterflies • **Mini-theme 6:** Online maps of local area and faraway places	• Develop digital literacy skills by being able to access, understand and interact with a range of technologies • Use the internet with adult supervision to find and retrieve information of interest to themself • Know and talk about the different factors that support their overall health and well-being, including sensible amounts of 'screen time'	• Complete a simple program on electronic devices • Use ICT hardware to interact with age-appropriate computer software • Create content such as a video recording, stories, and/or draw a picture on screen	*Computing vocabulary used during the academic year:* computer, iPad, mobile phone, light switch, washing machine, fridge, TV, remote control, toaster, kettle, microwave, Bee-Bot, walkie-talkie, internet, search, online, Wi-Fi, safety, button, flap, light, push, press, turn, switch, record

Year 1/2	**<u>Year A</u>** • **Unit 1:** Technology around us • **Unit 2 (two half-terms):** Digital painting and digital writing – busy things and JIT • **Unit 3:** Data – Busy things • **Unit 4:** Bee-Bots – Moving a floor robot • **Unit 5:** Busy things – early code **<u>Year B</u>** • **Unit 1:** a) The different uses of computers b) My Busy things • **Unit 2:** Multimedia and Digital writing • **Unit 3:** Digital Photography • **Unit 4:** Data - Pictograms • **Unit 5:** JIT turtle – Robot algorithms • **Unit 6:** Scratch Jr – Sequencing Animations	• Understand that information can be presented digitally (e.g., text, images, sounds) • Know that computers follow instructions (algorithms) to complete tasks • Recognise the importance of staying safe when using technology • Understand that digital devices communicate through networks (e.g., the internet) • Know that algorithms must be precise and can solve simple problems • Recognise the difference between input and output in digital devices	**Digital Literacy:** • Recognise the importance of using technology safely and respectfully • Keep personal information private and understand safe digital practices **Information Technology:** • Use basic software to create, store, and share digital content • Understand how technology is used beyond school (e.g., at home or in the community) **Computer Science:** • Understand basic algorithms and programming concepts • Create simple programs and debug basic errors	**<u>Year A</u>** **Unit 1:** computer, technology, responsibly, safe, keyboard, screen, mouse, power button, laptop, touch pad **Unit 2 (first half-term):** cursor, swipe, click, drag, drop, spacebar, backspace, enter, return key, delete **Unit 2 (second half-term):** undo, clear, save, font, text, page, layout, template, word bank, open file **Unit 3:** object, label, group, search, image, properties, least, value, shape, data **Unit 4:** algorithm, step, instruction, mistake, error, floor robot, command, turn, mistake, clear **Unit 5:** sequence, order, code, execute/run, program, forward, turn, debug, predict, block **<u>Year B</u>** **Unit 1:** information, computer, internet, online, safe, pinned, retrieve, device, messages, log in **Unit 2:** scroll, back arrow, bookmark, browser, shift button, page, layout, template, multimedia, save **Unit 3:** device, camera, capture, image, digital, landscape, portrait, framing, compose, subject **Unit 4:** more than, less than, organise, tally, chart, data, object, votes, total, picogram **Unit 5:** algorithm, step, sequence, command, debug, mistake, distance, undo, redo, edit **Unit 6:** tinkering, project, character, blocks, sprite, commands, motion, programming, background, tools

Year 3/4	**Year A** • **Unit 1:** a) The different uses of computers b) My Busy things • **Unit 2:** Multimedia and Digital writing • **Unit 3:** Digital Photography • **Unit 4:** Data - Pictograms • **Unit 5:** JIT turtle – Robot algorithms • **Unit 6:** Scratch Jr – Sequencing Animations **Year B** • **Unit 1:** Computing systems and networks – The internet • **Unit 2:** J2 Animate • **Unit 3:** Google slides • **Unit 4:** Data logging – using data loggers • **Unit 5:** Multiple scenes and dialogue • **Unit 6:** Repetition Scratch shapes	• Understand how digital content is created, stored, and shared • Know that programs use sequences of instructions to complete tasks • Begin to understand how data is represented digitally (e.g., numbers, text, images) • Know that networks (e.g., the internet) consist of interconnected devices • Understand the role of search engines and how they retrieve information • Begin to understand basic concepts of hardware (e.g., input, processing, storage, and output)	**Digital Literacy:** • Develop a deeper understanding of online safety, data security, and responsible online behaviour • Learn how to evaluate online content for trustworthiness and appropriateness **Information Technology:** • Use digital tools to retrieve information, present content, and collaborate online • Understand how to responsibly use technology and its societal impact **Computer Science** • Design and write programs with logical structures, using repetition (loops) and selection (if statements) • Troubleshoot and debug programs to ensure correct operation	**Year A** **Unit 1:** digital device, input, output, process, operating system, components, switch, server, wireless, files **Unit 2:** audio, microphone, speaker, headphones, input device, output device, sound, podcast, trim, align **Unit 3:** word processor, editor, underline, italics, font, highlight, align tools, insert, paste, menu **Unit 4:** data, branching database, attribute, sorting, grouping, object, value, similarities, differences, branch **Unit 5:** commands, blocks, run/execute, debug, loops, repeat, patterns, sequence, persistence, collaboration **Unit 6:** algorithm, sequence, command, parsons, run test, debug, repetition, pattern, improve, efficient **Year B** **Unit 1:** internet, network, router, network security, server, WAP (wireless access point), website, browser, web page, routing **Unit 2:** stop motion, animation, frame, background, image, animate, onion skin, speed, improve, test **Unit 3:** slide, layout, background, word art, bold, insert, format, copyright, resize, paste **Unit 4:** data, table, layout, input device, sensor, data logger, logging, interval, data point, analyse **Unit 5:** algorithm, code, sequence, multiple, concurrent, Parsons, sprites, stage, design, effect **Unit 6:** algorithm, sequence, command, distance, direction, explain, prediction, modify, pattern, repetition

Year 5/6	**<u>Year A</u>** • **Unit 1:** Computing systems and networks • **Unit 2:** iMovie – camera angles, frames and editing • **Unit 3:** Vector drawing – google drawings • **Unit 4:** Data and information – J2Databas • **Unit 5:** Selection in quizzes • **Unit 6:** Scratch – variables in games **<u>Year B</u>** • **Unit 1:** History of computing • **Unit 2:** Creating web pages – Google sites • **Unit 3:** Creating media – 3D modelling tinkercard • **Unit 4:** Data and information – flat-file databases • **Unit 5:** Scratch – variables in games • **Unit 6:** Sensing – Microbit – step counter	• Understand how more complex algorithms (e.g., loops and conditionals) can solve problems • Know that data can be organised and analysed using digital tools (e.g., spreadsheets) • Understand the basics of computer networks, including servers and clients • Know how computer systems (hardware and software) work together to execute tasks • Understand the concept of binary and its role in representing data in computers • Recognise the ethical and environmental impacts of computing and technology use	**Digital Literacy:** • Understand the long-term impact of digital footprints and online reputation • Recognise the importance of online privacy and security and know how to report concerns **Information Technology:** • Create, analyse, and present data using a variety of software tools • Collaborate digitally using cloud-based tools, sharing and editing content effectively **Computer Science:** • Design, implement, and refine complex programs, using algorithms, variables, loops, and conditionals • Apply logical reasoning to solve problems and debug programs	**<u>Year A</u>** **Unit 1:** search, search engine, index, crawler, bot, ranking, ordering, links, algorithm, content **Unit 2:** video, audio, camera, panning, close up, storyboard, preview, technique, angle, shot **Unit 3:** vector, tools, object, toolbar, resize, rotate, duplicate, layers, reflection, pixelated **Unit 4:** database, information, data, record, field, order, sort, search, criteria, value **Unit 5:** selection, condition, action, loop, conditional start, conditional switch, text input, text output, variable, operator **Unit 6:** variable, PRIMM, prediction, test, run, investigate, make and modify, forever, sequence, command **<u>Year B</u>** **Unit 1:** technology, computer, electronic, calculator, encryption, decipher, cipher, code-cracking, pioneer, contribution **Unit 2:** browser, media, logo, layout, purpose, ownership, permission, fair use, copyright, HTML (Hypertext Markup Language) **Unit 3:** select, perspective, view, handles, lift, lower, recolour, rotate, duplicate, combine **Unit 4:** data, collecting, table, structure, spreadsheet, cell, reference, format, formula, cell reference **Unit 5:** variable, PRIMM, prediction, test, run, investigate, make and modify, forever, sequence, command **Unit 6:** Micro:bit, input, output, process, USB, trace, selection, condition, random, navigation