

SWOP Computing Curriculum

Year Group	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
FS	Use technology in class throughout the year including the following: <ul style="list-style-type: none"> - Digital cameras - Beebots - Ipads - Interactive whiteboard - Walkie talkie phones Take part in Safer Internet Day and discuss online safety issues as and when they arise.					
1	Computer systems and networks Technology around us What technology is; parts of a computer; logging on; mouse skills; keyboard skills; saving; using computers safely paintz.app	Creating Media Digital painting Freehand, line, shape, fill, undo, paintbrush, pencil, eraser and brush tools Microsoft Paint	Data and Information Grouping data Labelling, grouping, counting, describing, and comparing objects; identifying properties/attributes; answering questions; dragging and dropping skills; input; data sets Google Slides/Powerpoint	Creating Media Digital writing Word processing; identifying keys on a keyboard; letter, number, space, backspace and Caps Lock keys; bold, italic and underline buttons; selecting text; different fonts; undo button; comparing computers to pencil and paper Google Docs/ Word	Programming A Moving a robot Commands, directions, sequences, predictions, forwards, backwards, left, right, planning, debugging, algorithms Bee-Bots	Programming B Programming animations Commands, sprites, blocks, backgrounds, changing values, deleting, algorithms, designing, debugging ScratchJr
2	Computer systems and networks Information technology around us Identifying computers and their uses in homes, shops etc; using technology safely Google Slides/ Powerpoint	Creating Media Digital photography Different devices; taking photos; portrait and landscape photos; composition; framing; light sources; focus; flash; zoom; autofocus; blur; changing images; colour effects; filters; fake photographs Digital cameras Pixlr	Programming A Robot algorithms Instructions, sequences, algorithms, order, logical reasoning, predicting, mats design, routes, artwork, decomposition, debugging Bee-Bots	Data and Information Pictograms Data, tally charts, totals, more than, less than, most, least, pictograms, answering questions, attributes, block diagrams, sharing data j2data Pictogram	Creating Media Making music How music makes us feel, differences, rhythm, patterns, percussion instruments, pitch, duration, emotions, imagination, notes, tempo, melody, create music for a purpose, editing Chrome Music Lab	Programming B Programming quizzes Sequences, blocks, green flag, outcomes, predictions, start on tap block, go to page block, backgrounds, characters, designing, algorithms, debugging, modifying ScratchJr

<p>3</p>	<p>Computer systems and networks Connecting computers Inputs, processes, outputs, digital/non-digital devices, connections, networks, wires, Wi-Fi, network switches, wireless access points, servers, routers, network infrastructure, school network Painting program</p>	<p>Creating Media Stop-frame animation Flip books, sequences of drawings/photographs, frames, stop-frame, planning, settings, characters, events, storyboard, onion skinning, composition, stage, capture area, evaluating, music, text, credits, captions, creating a stop-frame animation iMotion on iPads</p>	<p>Programming A Sequencing sounds Sprites; backdrops; motion, sound and event blocks; commands; sequences; code; designing; planning; costumes; algorithms; creating a piano Scratch</p>	<p>Data and information Branching databases Identifying and comparing objects; yes/no questions; groups; online databases; branching databases; structure; attributes; presenting information; comparing j2data Branch and Pictogram</p>	<p>Creating Media Desktop Publishing Text; images; font size, colour and type; templates; orientation; placeholders; layouts; return, backspace and shift keys; copy and paste; communicating messages; invitations; magazine covers; use in the wider world Adobe Spark</p>	<p>Programming B Events and actions in programs Events, actions, sprites, mazes, pen blocks, debugging, creating a maze Scratch</p>
<p>4</p>	<p>Computer systems and networks The internet Networks, routers, sharing messages, network protection, World Wide Web, websites, web pages, media, devices, internet browsers, designing websites, adding content to WWW, ownership, content protection rules, unreliable content, honest, accurate, legal, sharing, re-sharing Websites</p>	<p>Data and information Data logging Senses, environment, sensors, collecting data, accessing data, data points, data sets, logging intervals, analysing data, answering questions, gathering data over time, importing data sets, sorting data, warming experiment with ice Data loggers/Google Science Journal *Linked to Science</p>	<p>Programming A Repetition in shapes Logo, text-based commands, values, code snippets, algorithms, debugging, patterns, repetition, count-controlled loops, predictions, decomposition, procedures, design and create wrapping paper FMSLogo/Turtle Academy *Linked to Maths</p>	<p>Creating Media Audio editing Audio devices, recording digital audio, playing digital audio, input devices, output devices, microphones, speakers, headphones, ownership, copyright, podcasts, tracks, planning, writing content, saving digital recordings, editing, volume, fading in/out, copy, paste, time shift, sound effects, background music, combining sounds, exporting audio files, creating a podcast, evaluating Audacity *Linked to PP *Write podcast content in Literacy/Topic lessons</p>	<p>Programming B Repetition in games Instructions, code, algorithms, code snippets, count-controlled loops, infinite loops, predicting, animations, repetition, costumes, sprites, event blocks, modifying games, designing, debugging, evaluating Scratch</p>	<p>Creating Media Photo editing Online photo editors, composition, cropping, copyright, rotation, flipping, copy, paste, colours, filters, effects, retouching tools, positive and negative effects, real images, fake images, text, shapes, borders, creating a fake advert, evaluating Paint.NET/Be Funky/Lunapic *Linked to Egyptians/DT</p>

<p>5</p>	<p>Computer systems and networks Sharing information Transferring information, input, output, process, systems, devices, small-scale systems, large-scale systems, components, physical/electronic connections, communication, benefits of computer systems, IP addresses, protocols, data packets, shared files, collaborative online project, reusing and modifying, public/private Google Slides and Scratch</p>	<p>Creating Media Vector drawing Shapes, lines, drawing tools, comparing vector drawings to paper-based drawings, objects, moving, resizing, rotating, changing colours, duplicating, combining shapes, zoom tool, alignment grids, resize handles, modifying, layers, moving forwards and backwards, grouping, copying and pasting, digital images, pixels, creating labels for the classroom, evaluating Google Drawings</p>	<p>Programming A Selection in physical computing Microcontrollers, components, input devices, output devices, switches, LEDs, motors, conditions, true/false, algorithms, selection, circuits, repetition, infinite loops, count-controlled loops, sequences, 'if...then...', 'do until', condition-controlled loop, designs, testing, debugging, making a working model of a fairground carousel Crumble controllers etc</p>	<p>Data and information Flat-file databases Data; records; fields; order; answer questions; graphs; charts; solve problems; record card database; form; order, sort and group data cards; comparing paper and computer-based databases; attributes; values; grouping and sorting; searching; data selection; 'AND' and 'OR'; filters; answering real-world questions; using a real-life database as a travel agent for a flight search; presentations j2data Database</p>	<p>Creating Media Video editing Moving pictures; visual and audio; capturing, editing and manipulating video; storyboard; dictation machines; mobile sound recorders; AV devices; on/off buttons; record button; volume; camera lens; zoom; angle; movement (pan); portrait/landscape; theme; setting; characters; colour; sound; dialogue; lighting; importing; exporting; clipping videos; transition effects; images; overlay text; reshooting; storing; retrieving; special effects; titles; end credits; green screen; editing; evaluating Microsoft Photos/ Windows Movie Maker Digital cameras/iPads</p>	<p>Programming B Selection in quizzes Selection, conditions, if...then...else, sequence, repetition, infinite loop, binary questions, algorithms, program flow, branching structure, designing and coding an interactive quiz, testing, debugging, evaluating Scratch</p>
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<p>6</p>	<p>Computer systems and networks Internet communication World Wide Web, search engines, selecting and ranking results, refining searches, address bar, web crawlers, index, keywords, criteria, ordering results, influencing search results, limitations of searching, advertising, methods of communication, communicating responsibly, privacy, security</p>	<p>Creating Media Webpage creation Designing, creating, copyright, fair use of media, aesthetics of a website, navigation paths, evaluating content of existing websites, HTML code, web page layout, use of media, planning the features of a web page, copyright-free images, preview pages, editing web pages, evaluating own web pages, hyperlinks Google Sites</p>	<p>Programming A Variables in games Real-world variables, variables in Scratch, naming variables, value of a variable, changing variables, event blocks, improving an existing game, designing a game, algorithmic level of abstraction, sprites, backgrounds, algorithms, code, evaluating games, sharing games with others Scratch</p>	<p>Data and information Introduction to spreadsheets Organising, analysing and storing data, tables, data headings, columns, rows, data sets, answering and asking questions using data, number formats, formulas, cell references, inputs, outputs, calculations, operations, cell range, duplicating, event planning, graphs, tables, charts Google Sheets/ Microsoft Excel</p>	<p>Creating Media 3D modelling 3D shapes, create and manipulate digital objects, views, 3D space, select, move, delete, 2D and 3D graphics, similarities and differences, resizing, changing colours, rotation, position, duplicate, produce 3D model of pencil holder, grouping, placeholders, planning 3D model, making 3D model of photo frame, modifying, evaluating Tinkercad</p>	<p>Programming B Sensing Micro:bits; input, process, output; create a program to run on a controllable device; testing programs on an emulator; how if, then, else statements; flow of a program; selection; variables; random number; fortune teller project; accelerometer to sense motion; physical inputs; creating a compass; creating a navigational device; operands; designing and creating a step counter; testing and debugging micro:bits and Microsoft MakeCode</p>
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