

Woodlands Primary School Computing Overview

EYFS Opportunities for Computing

Understanding the World	Literacy	Physical Development	Communication and Language	Personal, Emotional and Emotional	Expressive Arts and Design	Mathematical
<p>Children to role play and tinker with a range of technology from electronic devices to walkie-talkies, remote control cars and interactive pets, this will help them to understand how they work and the functions they have.</p> <p>Digital cameras to be used to understand the world around them and the children can photograph their own learning.</p>	<p>By using interactive pets children can create their own stories about the life of the pet. These pets can be simply programmed for children to understand sequences and basic algorithms.</p> <p>After taking photos with a digital camera, children can then talk about the images they have taken.</p> <p>Children to understand online safety through a range of age-appropriate books such as Digiduck, Chicken Clicking, Smartie the Penguin and Goldilocks (A hashtag cautionary tale).</p>	<p>Children to have access to a range of input devices like keyboards and a mouse to help with finer motor skills. Typing games and mouse control games can help to develop these skills.</p> <p>Floor based directional activities can help children to learn simple programming language like left, right, forwards, backwards.</p>	<p>Children to be given the opportunity to give verbal instructions during different activities, helping them to understand how algorithms work.</p> <p>Giving instructions could also form part of sessions linked to physical development activities, such as determining rules for certain playground games.</p> <p>Children can have the chance to share information and news from home which has been sent in via email.</p>	<p>By using the iPads, children can use the voice recorder to record their voices, share how they are feeling or discuss relationships with others. Progression can be made by letting the children use video recorders to create their own videos.</p> <p>Children to understand online safety through a range of age-appropriate books such as Digiduck, Chicken Clicking, Smartie the Penguin and Goldilocks (A hashtag cautionary tale).</p>	<p>Children to have access to paint apps on the iPad and laptops that are connected to the interactive whiteboard. Children can create and take ownership of their own piece of digital artwork.</p> <p>Children can use the digital camera to take photos, which can be printed out and made into a collage. These images can also be used to create digital collages on iPads.</p>	<p>By using and controlling devices, interactive pets and remote-control cars children will develop counting skills and directional language like left, right, forwards, which will lead to being able to give simple algorithms.</p>

Computing Vocabulary – algorithm, backwards, backwards, camera, computer, create, digital camera, email, equipment, forward, forwards, information, instruction, internet, iPad, keyboard, keys, laptop, left, monitor, mouse, off, on, phone, photos, print, printer, remote, right, screen, share, sound, switch, technology, typing, website

Key Stage 1 and 2 Cycle A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 1/2	Technology Around Us (Y1) Information Technology Around Us (Y2)	Digital Writing	Moving a Robot (Y1) Robot Algorithms (Y2)	Grouping Data	Digital Painting	Programming Animation
Year 3/4	The Internet	Audio Editing	Repetition in Shapes	Branching Database	Photo Editing	Repetition in Games
Year 5	Sharing Information	Video Production	Selection in Physical Computing	Flat-file Databases	Vector Drawing	Selection in Quizzes
Year 6	Internet Communication	Webpage Creation	Variables in Games	Introduction to Spreadsheets	Sensing	3D Modelling

Unit Summaries Cycle A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 1/2	<p>Technology Around Us (Y1) Recognising technology in school and using it responsibly.</p> <p>Information Technology Around Us (Y2) Identifying IT and how its responsible use improves our world in school and beyond.</p>	<p>Digital Writing Using a computer to create and format text, before comparing to writing non-digitally.</p>	<p>Moving A Robot (Y1) Writing short algorithms and programs for floor robots and predicting program outcomes.</p> <p>Robot Algorithms (Y2) Creating and debugging programs, using logical reasoning to make predictions.</p>	<p>Grouping Data Exploring object labels, then using them to sort and group objects by properties.</p>	<p>Digital Painting Choosing appropriate tools in a program to create art and making comparisons with working non-digitally.</p>	<p>Programming Animations Designing and programming the movement of a character on screen to tell stories.</p>
Year 3/4	<p>The Internet Recognising the internet as a network of networks including the WWW and why we should evaluate online content.</p>	<p>Audio Editing Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p>	<p>Repetition in Shapes Using a text-based programming language to explore count-controlled loops when drawing shapes.</p>	<p>Branching Databases Building and using branching database to group objects using yes/no questions.</p>	<p>Photo Editing Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.</p>	<p>Repetition in Games Using block-based programming language to explore count-controlled and infinite loops when creating a game.</p>
Year 5	<p>Sharing Information Identifying and exploring how information is shared between digital systems.</p>	<p>Video Production Planning, capturing, and editing video to produce a short film.</p>	<p>Selection in Physical Computing Exploring conditions and selection using a programmable microcontroller.</p>	<p>Flat-file Databases Using a database to order data and create charts to answer questions.</p>	<p>Vector Drawing Creating images in a drawing program by using layers and groups of objects.</p>	<p>Selection in Quizzes Exploring selection in programming to design and code an interactive quiz.</p>
Year 6	<p>Internet Communication Recognising how the WWW can be used to communicate and be searched to find information.</p>	<p>Webpage Creation Designing and creating webpages, considering copyright, aesthetics, and navigation.</p>	<p>Variables in Games Exploring variables when designing and coding a game.</p>	<p>Introduction to Spreadsheets Answering questions by using spreadsheets to organise and calculate data.</p>	<p>Sensing Designing and coding a project that captures inputs from a physical device.</p>	<p>3D modelling Planning, developing, and evaluating 3D Computer models of physical objects.</p>

Computing Vocabulary Cycle A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 12	<p>Technology Around Us Online (Y1) Base unit, click, computer, device, drag, desktop, double-click, file, full stop, iPad, input device, keyboard, laptop, mouse, monitor, responsibly, open, password, program, save, safely, screen, spacebar, text, technology, typing, trackpad.</p> <p>Information Technology Around Us (Y2) Barcode, computer, devices, games console, handles, information technology (IT), memory stick, password, projector, release, resize, safety, scan, scanner, social media, USB.</p>	<p>Digital Writing Backspace, bold, capital letters, compare, font, format, italic, keyboard, keys, letters, letters, Microsoft Word, mouse, numbers, redo, select, space, text cursor, toolbar, toolbar, type, underline, undo, word processor.</p>	<p>Moving a Robot (Y1) Algorithm, backwards, Bee-bots, clear, commands, directions, forwards, go, instructions, left, plan, program, right, robot, route, turn.</p> <p>Robot Algorithms (Y2) Algorithm, backwards, clear, debugging, decomposition, fixing, forwards, go, Instruction, left, mat, order, prediction, program, programmers, right, route, sequence, turn, unambiguous.</p>	<p>Grouping Data Colour, data, fewest, group, image, label, least, less, more, most, object, property, same, search, shape, size, value.</p>	<p>Digital Painting Brush style, colour, computers, erase, fill tool, fill line tool, paint program, paintbrush, painting, pictures, shape tools, tool, undo.</p>	<p>Programming Animation Algorithm, appropriate, background, Bee-Bot, block, change, command, compare, delete, effect, instruction, joining, predict, program, programming area, programming blocks, programming, reset, run, Scratch Jn, sprite, start block, value.</p>
Year 3/4	<p>The Internet Accurate, adverts, content, download, files, Information, internet, links, network, network security, network switch, ownership, permission, router, routing, server, sharing, use, web address router, web browser, web page, website, Wireless Access Point (WAP), World Wide Web (WWW)</p>	<p>Audio Editing Align, audio, edit, export, headphones, import, input device, layer, load, microphone, MP3, output device, playback, podcast, record, save, selection, sound, speaker, trim.</p>	<p>Repetition in Shapes Code snippet, commands, count-controlled loop, debug, decompose, design, logo, pattern, procedure, program, repeat, repetition, trace, turtle, value.</p>	<p>Branching Databases Attribute, branching databases, compare, database, decision tree, equal, even, information, objects, order, organise, questions, selecting, separate, structure, table, value.</p>	<p>Photo Editing Adjustments, alter, background, clone, combine, composite, copy, crop, cut, digital, edit, effects, font, foreground, hue, Image, made up, paste, retouch, rotate, saturation, save, select, sepia, undo, vignette, zoom.</p>	<p>Repetition in games Algorithm, animate, block, code, costume, count-controlled loop, debug, design, duplicate, evaluate, event block, forever, infinite loop, loop, modify, programming, refine, repeat, repetition, Scratch, sprite, value.</p>

Year 5	<p>Sharing Information Algorithm, connection, content creator, crawler, digital, index, input, links, ordering, output, process, ranking, refine, search, search engine, search engine optimisation (SEO), selection, system, web crawler.</p>	<p>Video Production Audio, camera, clip, close, delete, edit, evaluate, export, filming, high angle, import, lens, long shot, low angle, microphone, mid-range, moving subject, normal angle, pan, panning, reorder, reshoot, share, side by side, split, static camera, talking head, trim, video camera, video, zoom.</p>	<p>Selection in Physical Computing Action, components, condition, connect, connection, controller, count-controller, crocodile clips, crumble, debug, infinite, input, LED, loop, microcontroller, motor, output, repetition, selection, sparkle, switch.</p>	<p>Flat-file Databases Axis, chart, compare, criteria, data, database, field, filter, graph, group, information, order, presentation, record, search, sort, value.</p>	<p>Vector Drawing Align, colour, copy, duplicate, group, layers, modify, move, object, order, paste, reflection, resize, reuse, rotate, select, toolbar, tools, ungroup, vector drawing, zoom.</p>	<p>Selection in Quizzes Algorithm, answers, condition, conditional statement, count-control loop, debug, design, false, implement, input, outcomes, program, questions, run, selection, task, test, true.</p>
Year 6	<p>Communication Address, chat, communication, data payload, data, address, digital footprint, domain Name Server (DNS), explore, header, internet, Internet Protocol (IP), one-to-many, one-to-one, one-way, packet, private, protocol, public, slide deck, two-way.</p>	<p>Web Page Creation Breadcrumb troll, browser, copyright, device, embed, evaluate, external, Google Sites, header, homepage, hyperlink, Hypertext Markup Language (HTML), layout, link, logo, media, navigate, preview, purpose, subpage, web page, website.</p>	<p>Variables in Games Algorithm, change, code, debug, design, evaluate, event, improve, name, output, program, project, set, share, test, value, variable.</p>	<p>Spreadsheets Ascending, calculation, calculate, cell reference, cells, chart, collecting, columns, data, descending, Excel, formula, graph, input, labels, operation, output, results, rows, sigma, spreadsheet, structure, table, total.</p>	<p>3D Modelling 2D, 3D, combine, construct, cylinder, duplicate, evaluate, group, handle, hollow, lift, lower, modify, move, perspective, placeholder, recolour, resize, rotate, select, shapes, view.</p>	<p>Sensing Accelerometer, algorithms, code, compass, condition, create, debug, design, direction, else, flashing, if, input, Makecode, Micro:bit, navigation, output, plan, process, random, selection, sensing, step counter, task, test, then, trace, USB, value, variable.</p>

Key Stage 1 and 2 Cycle B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 1/2	Technology Around Us (Y1) Information Technology Around Us (Y2)	Digital Writing	Moving A Robot (Y1) Robot Algorithms (Y2)	Pictograms	Digital Photos	Programming Quizzes
Year 3/4	Connecting Computers	Stop-Frame Animation	Sequencing Sounds	Data Logging	Desktop Publishing	Events and Actions in Programs
Year 5	Sharing Information	Video Production	Selection in Physical Computing	Flat-file Databases	Vector Drawing	Selection in Quizzes
Year 6	Internet Communication	Webpage Creation	Variables in Games	Introduction to Spreadsheets	3D Modelling	Sensing

Unit Summaries Cycle B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 1/2	Technology Around Us (Y1) Recognising technology in school and using it responsibly. Information Technology Around Us (Y2) Identifying IT and how its responsible use improves our world in school and beyond.	Digital Writing Using a computer to create and format text, before comparing to writing non-digitally.	Moving A Robot (Y1) Writing short algorithms and programs for floor robots and predicting program outcomes. Robot Algorithms (Y2) Creating and debugging programs, using logical reasoning to make predictions.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.	Digital Photography Capturing and changing digital photographs for different purposes.	Programming Quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
Year 3/4	Connecting Computers Identifying that digital device have inputs, processes, and outputs and how devices can be connected to make networks.	Stop Frame Animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Sequencing Sounds Creating sequences in a block-based programming language to make music.	Data Logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Desktop Publishing Creating documents by modifying text, images, and page layouts for a specific purpose.	Events and Actions in Programs Writing algorithms and programs that use a range of events to trigger sequences of actions.
Year 5	Sharing Information Identifying and exploring how information is shared between digital systems.	Video Production Planning, capturing, and editing video to produce a short film.	Selection in Physical Computing Exploring conditions and selection using a programmable microcontroller.	Flat-file Databases Using a database to order data and create charts to answer questions.	Vector Drawing Creating images in a drawing program by using layers and groups of objects.	Selection in Quizzes Exploring selection in programming to design and code an interactive quiz.
Year 6	Internet Communication Recognising how the WWW can be used to communicate and be searched to find information.	Webpage Creation Designing and creating webpages, considering copyright, aesthetics, and navigation.	Variables in Games Exploring variables when designing and coding a game.	Introduction to Spreadsheets Answering questions by using spreadsheets to organise and calculate data.	3D Modelling Planning, developing, and evaluating 3D Computer models of physical objects.	Sensing Designing and coding a project that captures inputs from a physical device.

Computing Vocabulary Cycle B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computer Systems and Networks	Creative Media	Programming 1	Data and Info	Creating Media	Programming 2
Year 12	<p>Technology Around Us Online (Y1) Base unit, click, computer, device, drag, desktop, double-click, file, full stop, iPad, input device, keyboard, laptop, mouse, monitor, responsibly, open, password, program, save, safely, screen, spacebar, text, technology, typing, trackpad.</p> <p>Information Technology Around Us (Y2) Barcode, computer, devices, games console, handles, information technology (IT), memory stick, password, projector, release, resize, safety, scan, scanner, social media, USB.</p>	<p>Digital Writing Backspace, bold, capital letters, compare, font, format, italic, keyboard, keys, letters, letters, Microsoft Word, mouse, new page, numbers, open, redo, save, select, space, text cursor, toolbar, toolbar, type, underline, undo, word processor.</p>	<p>Moving a Robot (Y1) Algorithm, backwards, Bee-bots, clear, commands, directions, forwards, go, instructions, left, plan, program, right, robot, route, turn.</p> <p>Robot Algorithms (Y2) Algorithm, backwards, clear, debugging, decomposition, fixing, forwards, go, Instruction, left, mat, order, prediction, program, programmers, right, route, sequence, turn, unambiguous.</p>	<p>Pictograms Attribute, block diagram, compare, conclusion, count, data, explain, least common, least popular, least, less than, more common, more than, most popular, most, object, organise, sharing, tally chart.</p>	<p>Digital Photography Background, camera, capture, compose, device, digital, editing, filter, flash, focal point, focus, foreground, format, framing, horizontal, image, landscape, light sources, lighting, photograph, pixel, portrait, subject, vertical.</p>	<p>Programming Quizzes Actions, algorithm, blocks, build, change, command, compare, debug, design, evaluate, features, match, modify, outcome, predict, program, project, run, Sequence, sprite, start.</p>
Year 34	<p>Connecting Computers Connection, digital device, digital, input, network cables, network sockets, network switch, network, non-digital, output, process, program, server, wireless access point (WAP).</p>	<p>Stop Frame Animation Animation, animation, character, consistency, delete, evaluation, events, flip book, frame, frame, import, media, onion skinning, sequence, setting, stop frame, transition.</p>	<p>Sequence in Music Algorithm, backdrop, blocks, bug, chord, code, code, commands, costume, debug, design, event, glide, go to, motion, note, order, point in direction, programming blocks, programming, run the code, Scratch, sequence, sprite, stage, task, turn.</p>	<p>Data Logging Analyse, collection, conclusion, data logger, data point, data set, data, export, import, input device, interval, layout, logged, logging, review, sensor, table.</p>	<p>Desktop Publishing Advantages, benefits, communicate, content, copy, desktop publishing, disadvantages, font style, font, images, landscape, layout, layout, orientation, paste, placeholder, portrait, purpose, template, template, Text.</p>	<p>Events and Actions Action, algorithm, code, debugging, design, errors, event, extension block, logic, motion, move, pen up, pen, resize, set up, sprite, test.</p>

Year 5	<p>Sharing Information Algorithm, connection, content creator, crawler, digital, index, input, links, ordering, output, process, ranking, refine, search, search engine, search engine optimisation (SEO), selection, system, web crawler.</p>	<p>Video Production Audio, camera, clip, close, delete, edit, evaluate, export, filming, high angle, import, lens, long shot, low angle, microphone, mid-range, moving subject, normal angle, pan, panning, reorder, reshoot, share, side by side, split, static camera, talking head, trim, video camera, video, zoom</p>	<p>Selection in Physical Computing Action, components, condition, connect, connection, controller, count-controller, crocodile clips, crumble, debug, infinite, input, LED, loop, microcontroller, motor, output, repetition, selection, sparkle, switch.</p>	<p>Flat-file Databases Axis, chart, compare, criteria, data, database, field, filter, graph, group, information, order, presentation, record, search, sort, value.</p>	<p>Vector Drawing Align, colour, copy, duplicate, group, layers, modify, move, object, order, paste, reflection, resize, reuse, rotate, select, toolbar, tools, ungroup, vector drawing, zoom.</p>	<p>Selection in Quizzes Algorithm, answers, condition, conditional statement, count-control loop, debug, design, false, implement, input, outcomes, program, questions, run, selection, task, test, true.</p>
Year 6	<p>Communication Address, chat, communication, data payload, data, address, digital footprint, domain Name Server (DNS), explore, header, internet, Internet Protocol (IP), one-to-many, one-to-one, one-way, packet, private, protocol, public, slide deck, two-way.</p>	<p>Web Page Creation Breadcrumb troll, browser, copyright, device, embed, evaluate, external, Google Sites, header, homepage, hyperlink, Hypertext Markup Language (HTML), layout, link, logo, media, navigate, preview, purpose, subpage, web page, website.</p>	<p>Variables in Games Algorithm, change, code, debug, design, evaluate, event, improve, name, output, program, project, set, share, test, value, variable.</p>	<p>Spreadsheets Ascending, calculation, calculate, cell reference, cells, chart, collecting, columns, data, descending, Excel, formula, graph, input, labels, operation, output, results, rows, sigma, spreadsheet, structure, table, total.</p>	<p>3D Modelling 2D, 3D, combine, construct, cylinder, duplicate, evaluate, group, handle, hollow, lift, lower, modify, move, perspective, placeholder, recolour, resize, rotate, select, shapes, view.</p>	<p>Sensing Accelerometer, algorithms, code, compass, condition, create, debug, design, direction, else, flashing, if, input, Makecode, Micro:bit, navigation, output, plan, process, random, selection, sensing, step counter, task, test, then, trace, USB, value, variable.</p>