

Computing Long Term Plan 2023-25

		Autumn I	Autumn II	Spring I	Spring II	Summer I	Summer II
		Computing Systems and Networks	Creating Media	Programming A	Data and Information	Creating Media	Programming B
Cycle A	YR/Y1	<p>Y1 Technology Around Us</p> <p>To identify technology</p> <p>To identify a computer and its main parts</p> <p>To use a mouse in different ways</p> <p>To use a keyboard to type on a computer</p> <p>To use the keyboard to edit text</p> <p>To create rules for using technology responsibly</p> <p>Vocab:</p> <p style="text-align: center;"><i>technology, computer, mouse, trackpad, keyboard, screen,</i></p>	<p>Y1 Digital Painting</p> <p>To describe what different freehand tools do</p> <p>To use the shape tool and the line tools</p> <p>To make careful choices when painting a digital picture</p> <p>To explain why I chose the tools I used</p> <p>To use a computer on my own to paint a picture</p> <p>To compare painting a picture on a computer and on paper</p> <p>Vocab:</p> <p>paint program,</p>	<p>Y1 Moving a Robot</p> <p>To explain what a given command will do</p> <p>To act out a given word</p> <p>To combine forwards and backwards commands to make a sequence</p> <p>To combine four direction commands to make sequences</p> <p>To plan a simple program</p> <p>To find more than one solution to a problem</p> <p>Vocab:</p> <p>Bee-Bot, forwards, backwards, turn,</p>	<p>Y1 Grouping Data</p> <p>To label objects</p> <p>To identify that objects can be counted</p> <p>To describe objects in different ways</p> <p>To count objects with the same properties</p> <p>To compare groups of objects</p> <p>To answer questions about groups of objects</p> <p>Vocab:</p> <p>object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most,</p>	<p>Y1 Digital Writing</p> <p>To use a computer to write</p> <p>To add and remove text on a computer</p> <p>To identify that the look of text can be changed on a computer</p> <p>To make careful choices when changing text</p> <p>To explain why I used the tools that I chose</p> <p>To compare typing on a computer to writing on paper</p> <p>Vocab:</p> <p>word processor, keyboard, keys, letters, type,</p>	<p>Y1 Programming Animations</p> <p>To choose a command for a given purpose</p> <p>To show that a series of commands can be joined together</p> <p>To identify the effect of changing a value</p> <p>To explain that each sprite has its own instructions</p> <p>To design the parts of a project</p> <p>To use my algorithm to create a program</p> <p>Vocab:</p> <p>ScratchJr, command, sprite, compare,</p>

		<i>double-click, typing.</i>	tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	fewest, least, the same	numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.	programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.
Y2/Y3	Y2 IT Around Us To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made	Y3 Stop Frame Animation To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an	Y2 Robot Algorithms To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program To explain that programming projects can have code and artwork To design an algorithm To create and debug a program	Y3 Branching Databases To create questions with yes/no answers To identify the attributes needed to collect data about an object To create a branching database To explain why it is helpful for a database to be well structured To plan the structure of a branching database To plan the structure of a	Y3 Desktop Publishing To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of	Y2 Programming Quizzes To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved Vocab:	

		<p>when using information technology</p> <p>Vocab:</p> <p>Information technology (IT), computer, barcode, scanner/scan</p>	<p>animation</p> <p>Vocab:</p> <p>animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.</p>	<p>that I have written</p> <p>Vocab:</p> <p>instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition</p>	<p>branching database</p> <p>Vocab:</p> <p>attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.</p>	<p>desktop publishing</p> <p>Vocab:</p> <p>text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.</p>	<p>sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.</p>
Y4/5/6	<p>Y5 Systems and searching</p> <p>To explain that computers can be connected together to form systems</p> <p>To recognise the role of computer systems in our lives</p> <p>To experiment</p>	<p>Y5 Video Production</p> <p>To explain what makes a video effective</p> <p>To identify digital devices that can record video</p> <p>To capture video using a range of techniques</p> <p>To create a</p>	<p>Y4 Repetition in Games</p> <p>To develop the use of count-controlled loops in a different programming environment</p> <p>To explain that in programming there are infinite loops and count</p>	<p>Y6 Introduction to Spreadsheets</p> <p>To create a data set in a spreadsheet</p> <p>To build a data set in a spreadsheet</p> <p>To explain that formulas can be used to produce calculated data</p> <p>To apply formulas</p>	<p>Y6 Web Page creation</p> <p>To review an existing website and consider its structure</p> <p>To plan the features of a web page</p> <p>To consider the ownership and use of images</p>	<p>Y5 Selection in quizzes</p> <p>To explain how selection is used in computer programs</p> <p>o relate that a conditional statement connects a condition to an outcome</p>	

		<p>with search engines To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom</p> <p>Vocab: system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.</p>	<p>storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video</p> <p>Vocab: video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.</p>	<p>controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition</p> <p>Vocab: Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.</p>	<p>to data To create a spreadsheet to plan an event To choose suitable ways to present data</p> <p>Vocab: data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.</p>	<p>(copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people</p> <p>Vocab: website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed.</p>	<p>To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program</p> <p>Vocab: Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator</p>
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Cycle B	YR/Y1	<p>Y1 Technology Around Us</p> <p>To identify technology</p> <p>To identify a computer and its main parts</p> <p>To use a mouse in different ways</p> <p>To use a keyboard to type on a computer</p> <p>To use the keyboard to edit text</p> <p>To create rules for using technology responsibly</p> <p>Vocab: technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.</p>	<p>Y1 Digital Painting</p> <p>To describe what different freehand tools do</p> <p>To use the shape tool and the line tools</p> <p>To make careful choices when painting a digital picture</p> <p>To explain why I chose the tools I used</p> <p>To use a computer on my own to paint a picture</p> <p>To compare painting a picture on a computer and on paper</p> <p>Vocab: paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers</p>	<p>Y1 Moving a Robot</p> <p>To explain what a given command will do</p> <p>To act out a given word</p> <p>To combine forwards and backwards commands to make a sequence</p> <p>To combine four directions commands to make sequences</p> <p>To plan a simple program</p> <p>To find more than one solution to a problem</p> <p>Vocab: Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.</p>	<p>Y1 Grouping Data</p> <p>To label objects</p> <p>To identify that objects can be counted</p> <p>To describe objects in different ways</p> <p>To count objects with the same properties</p> <p>To compare groups of objects</p> <p>To answer questions about groups of objects</p> <p>Vocab: object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same</p>	<p>Y1 Digital Writing</p> <p>To use a computer to write</p> <p>To add and remove text on a computer</p> <p>To identify that the look of text can be changed on a computer</p> <p>To make careful choices when changing text</p> <p>To explain why I used the tools that I chose</p> <p>To compare typing on a computer to writing on paper</p> <p>Vocab: word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing,</p>	<p>Y1 Programming Animations</p> <p>To choose a command for a given purpose</p> <p>To show that a series of commands can be joined together</p> <p>To identify the effect of changing a value</p> <p>To explain that each sprite has its own instructions</p> <p>To design the parts of a project</p> <p>To use my algorithm to create a program</p> <p>Vocab: ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change,</p>

						writing.	value, instructions, design.
	Y2/Y3	<p>Y3 Connecting Computers</p> <p>To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network</p> <p>Vocab: digital device, input, process, output, program, digital, non-digital, connection, network, switch,</p>	<p>Y2 Digital Photography</p> <p>To use a digital device to take a photograph To make choices when taking a photograph To make choices when taking a photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed</p> <p>Vocab: device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing,</p>	<p>Y3 Sequencing Sounds</p> <p>To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description</p> <p>Vocab: Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction,</p>	<p>Y2 Pictograms</p> <p>To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer</p> <p>Vocab: more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter,</p>	<p>Y2 Digital Music</p> <p>To say how music can make us feel To identify that there are patterns in music To experiment with sound using a computer To use a computer to create a musical pattern To create music for a purpose To review and refine our computer work</p> <p>Vocab: music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.</p>	<p>Y3 Events and Actions in Programs</p> <p>To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge</p> <p>Vocab: motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup,</p>

		server, wireless access point, cables, sockets	lighting,	go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code.	data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing		code, test, debug, actions.
Y4/5/6	Y6 Communication and Collaboration	<p>To explain the importance of internet addresses</p> <p>To recognise how data is transferred across the internet</p> <p>To explain how sharing information online can help people to work together</p> <p>To evaluate different ways of working together online</p> <p>To recognise how we communicate using technology</p> <p>To evaluate different methods of online communication</p> <p>Vocab: communication,</p>	<p>Y4 Audio Production</p> <p>To identify that sound can be recorded</p> <p>To explain that audio recordings can be edited</p> <p>To recognise the different parts of creating a podcast project</p> <p>To apply audio editing skills independently</p> <p>To combine audio to enhance my podcast project</p> <p>To evaluate the effective use of audio</p> <p>Vocab: audio, microphone, speaker, headphones, input device, output</p>	<p>Y6 Variables in games</p> <p>To define a 'variable' as something that is changeable</p> <p>To explain why a variable is used in a program</p> <p>To choose how to improve a game by using variables</p> <p>To design a project that builds on a given example</p> <p>To use my design to create a project</p> <p>To evaluate my project</p> <p>Vocab: variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project,</p>	<p>Y4 Data Logging</p> <p>To explain that data gathered over time can be used to answer questions</p> <p>To use a digital device to collect data automatically</p> <p>To explain that a data logger collects 'data points' from sensors over time</p> <p>To recognise how a computer can help us analyse data</p> <p>To identify the data needed to answer questions</p> <p>To use data from sensors to answer questions</p> <p>Vocab: data, table, layout,</p>	<p>Y6 3D Modelling</p> <p>To recognise that you can work in three dimensions on a computer</p> <p>To identify that digital 3D objects can be modified</p> <p>To recognise that objects can be combined in a 3D model</p> <p>To create a 3D model for a given purpose</p> <p>To plan my own 3D model</p> <p>To create my own digital 3D model</p> <p>Vocab: TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate,</p>	<p>Y6 Sensing Movement</p> <p>To create a program to run on a controllable device</p> <p>To explain that selection can control the flow of a program</p> <p>To update a variable with a user input</p> <p>To use a conditional statement to compare a variable to a value</p> <p>To design a project that uses inputs and outputs on a controllable device</p> <p>To develop a program to use inputs and outputs on a controllable</p>

		<p>protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one-way, two-way, one-to-one, one-to-many.</p>	<p>device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.</p>	<p>code, test, debug, improve, evaluate, share, assign, declare</p>	<p>input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.</p>	<p>duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.</p>	<p>device</p> <p>Vocab: Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.</p>
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