

Computing @ GPVPA – NCCE

	Term 1	Term 3	Term 3	Term 4	Term 5	Term 6
<b>Reception</b>						
<b>Year One</b>	Technology around us (1.1)*	Digital painting (1.2)	Moving a robot (1.3)	Grouping data (1.4)	Digital writing (1.5)	Programming animations (1.6)
<b>Year Two</b>	Information technology around us (2.1)	Digital photography (2.2)	Robot algorithms (2.3)	Pictograms (2.4)	Digital music (2.5)	Programming quizzes (2.6)

	Term 1	Term 3	Term 3	Term 4	Term 5	Term 6
<b>Year Three</b>	Connecting computers (3.1)	Stop-frame animation (3.2)	Sequencing sounds (3.3)	Branching databases (3.4)	Desktop publishing (3.5)	Events and actions in programs (3.6)
<b>Year Four</b>	The internet (4.1)	Audio production (4.2)	Repetition in shapes (4.3)	Data logging (4.4)	Photo Editing (4.5)	Repetition in games (4.6)
<b>Year Five</b>	Systems and searching (5.1)	Video production (5.2)	Selection in physical computing (5.3)	Flat-file databases (5.4)	Introduction to vector graphics (5.5)	Selection in quizzes (5.6)
<b>Year Six</b>	Communication and collaboration (6.1)	Webpage creation (6.2)	Variables in games (6.3)	Introduction to spreadsheets (6.4)	3D modelling (6.5)	Sensing movement (6.6)

## Computing @ GPVPA – NCCE – Overview and vocabulary per term

### EYFS and KS1

	Term 1	Term 3	Term 3	Term 4	Term 5	Term 6
<b>Reception</b>						
<b>Year One</b>	<b>Technology around us</b> Recognising technology in school and using it responsibly.	<b>Digital painting</b> Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	<b>Moving a robot</b> Writing short algorithms and programs for floor robots, and predicting program outcomes.	<b>Grouping data</b> Exploring object labels, then using them to sort and group objects by properties.	<b>Digital writing</b> Using a computer to create and format text, before comparing to writing non-digitally.	<b>Programming animations</b> Designing and programming the movement of a character on screen to tell stories.
	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	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, writing.	ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.
<b>Year Two</b>	<b>Information technology around us</b> Identifying IT and how its responsible use improves our world in school and beyond.	<b>Digital photography</b> Capturing and changing digital photographs for different purposes.	<b>Robot algorithms</b> Creating and debugging programs, and using logical reasoning to make predictions.	<b>Pictograms</b> Collecting data in tally charts and using attributes to organise and present data on a computer.	<b>Digital music</b> Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	<b>Programming quizzes</b> Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
	Information technology (IT), computer, barcode, scanner/scan	device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,	instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.	sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.

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<b>Year Three</b>	<b>Connecting computers</b> Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	<b>Stop-frame animation</b> Capturing and editing digital still images to produce a stop-frame animation that tells a story.	<b>Sequencing sounds</b> Creating sequences in a block-based programming language to make music.	<b>Branching databases</b> Building and using branching databases to group objects using yes/no questions.	<b>Desktop publishing</b> Creating documents by modifying text, images, and page layouts for a specified purpose.	<b>Events and actions in programs</b> Writing algorithms and programs that use a range of events to trigger sequences of actions.
	<b>Vocabulary:</b> digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets	<b>Vocabulary:</b> animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.	<b>Vocabulary:</b> Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code.	<b>Vocabulary:</b> attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree	<b>Vocabulary:</b> text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits	<b>Vocabulary:</b> motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.
<b>Year Four</b>	<b>The internet</b> Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	<b>Audio production</b> Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	<b>Repetition in shapes</b> Using a text-based programming language to explore count-controlled loops when drawing shapes.	<b>Data logging</b> Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	<b>Photo editing</b> Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	<b>Repetition in games</b> Using a block-based Programming language to explore count-controlled and infinite loops when creating a game.
	<b>Vocabulary:</b> internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts	<b>Vocabulary:</b> audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.	<b>Vocabulary:</b> Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure.	<b>Vocabulary:</b> data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.	<b>Vocabulary:</b> image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font.	<b>Vocabulary:</b> 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.

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<b>Year Five</b>	<b>Systems and searching</b> Recognising IT systems in the world and how some can enable searching on the internet.	<b>Video production</b> Planning, capturing, and editing video to produce a short film.	<b>Selection in physical computing</b> Exploring conditions and selection using a programmable microcontroller.	<b>Flat-file databases</b> Using a database to order data and create charts to answer questions.	<b>Introduction to vector graphics</b> Creating images in a drawing program by using layers and groups of objects.	<b>Selection in quizzes</b> Exploring selection in programming to design and code an interactive quiz.
	<b>Vocabulary:</b> 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.	<b>Vocabulary:</b> 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.	<b>Vocabulary:</b> microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer	<b>Vocabulary:</b> database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.	<b>Vocabulary:</b> vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection	<b>Vocabulary:</b> selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator
<b>Year Six</b>	<b>Communication and collaboration</b> Exploring how data is transferred by working collaboratively online.	<b>Webpage creation</b> Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	<b>Variables in games</b> Exploring variables when designing and coding a game.	<b>Introduction to spreadsheets</b> Answering questions by using spreadsheets to organise and calculate data.	<b>3D modelling</b> Planning, developing, and evaluating 3D computer models of physical objects.	<b>Sensing movement</b> Designing and coding a project that captures inputs from a physical device.
	<b>Vocabulary:</b> communication, 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.	<b>Vocabulary:</b> 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.	<b>Vocabulary:</b> variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare	<b>Vocabulary:</b> 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.	<b>Vocabulary:</b> TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.	<b>Vocabulary:</b> 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.

