Malvern Parish Primary School Computing Curriculum – 2024/25

Key Stage 2

Autumn1	Autumn2	Spring1	Spring 2	Summer1	Summer2
Year 3					
Computing Systems & Networks **Connecting computers** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	**Creating Media** **Stop-frame animation** Capturing and editing digital still images to produce a stop-frame animation that tells a story.	**Programming A** **Sequencing sounds** Creating sequences in a block-based programming language to make music.	**Data & Information** **Branching databases** Building and using branching databases to group objects using yes/no questions.	**Creating Media** **Desktop publishing** Creating documents by modifying text, images, and page layouts for a specified purpose	**Programming B** **Events and actions in programs** Writing algorithms and programs that use a range of events to trigger sequences of actions.
How does a digital device wok? LC: Can I explain how digital devices function? What parts make up a digital device? LC: Can I identify input and output devices? How do digital devices help us? LC: Can I recognise how digital devices can change the way that we work? How am I connected? LC: Can I explain how a computer network can be used to share information? How are computers connected? LC: Can I explore how digital devices can be connected?	Can a picture move? LC: Can I explain that animation is a sequence of drawings or photographs? Frame by frame LC: Can I relate animated movement with a sequence of images? What's the story? LC: Can I plan an animation? Picture perfect LC: Can I identify the need to work consistently and carefully? Evaluate and make it great! LC: Can I review and improve an animation? Lights, camera, action! LC: Can I evaluate the impact of adding other media to an animation?	Introduction to Scratch LC: Can I explore a new programming environment? Programming sprites LC: Can I identify that commands have an outcome? Sequences LC: Can I explain that a programme has a start? Ordering commands LC: Can I recognise that a sequence of commands can have an order? Looking good LC: Can I change the appearance of my project? Making an instrument LC: Can I create a project from a task description?	Yes or no questions LC: Can I create questions with yes or no answers? Making groups LC: Can I identify the attributes needed to collect data about an object? Creating a branching database LC: Can I create a branching database? Structuring a branching database LC: Can I explain why it is helpful for a database to be well structured? Planning a branching database LC: Can I plan the structure of a branching database? Two ways of presenting information LC: Can I independently create an identification tool?	Words and pictures LC: Can I recognise how text and images convey information? Can you edit? LC: Can I recognise that text and layout can be edited? Great template! LC: Can I choose appropriate page settings? Becoming a designer LC: Can I add content to a desktop publishing publication? Lay it out LC: Can I consider how different layouts can suit different purposes? Why desktop publishing? LC: Can I consider the benefits of desktop publishing?	Moving a sprite LC: Can I explain how a sprite moves in an existing project? Maze movement LC: Can I create a program to move a sprite in four directions? Drawing lines LC: Can I adapt a program to a new context? Adding features LC: Can I develop my program by adding features? Debugging movement LC: Can I identify and fix bugs in a program? Making a project LC: Can I design and create a maze-based challenge?

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What does our school network look like? LC: Can I recognise the physical components of a network?					
digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets	animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition	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	attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree	text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits	motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions
Year 4					
Computing Systems & Networks **The internet** Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	**Creating Media** **Audio production** Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	**Programming A** **Repetition in shapes** Using a text-based programming language to explore count-controlled loops when drawing shapes	**Data & Information** **Data logging** Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	**Creating Media** **Photo editing** Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.	**Programming B** **Repetition in games** Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
Connecting networks LC: Can I describe how networks physically connect to other networks? What is the internet made of? LC: Can I recognise how networked devices make up the internet? Sharing information LC: Can I outline how websites can be shared via	Recording sound LC: Can I identify that sound can be recorded? Editing audio LC: Can I explain that audio recordings can be edited? Planning a podcase LC: Can I recognise the different parts of creating a podcast project? Creating a podcast LC: Can I apply audio editing skills independently?	Programming a screen turtle LC: Can I identify that accuracy in programming is important? Programming letters LC: Can I create a program in a text-based language? Patterns and repeats LC: Can I explain what repeat means? Using loops to create shapes LC: Can I modify a count-controlled loop to produce a given outcome?	Answering questions LC: Can I explain that data gathered over time can be used to answer questions? Data collection LC: Can I use a digital device to collect data automatically? Logging LC: Can I explain that a data logger collects 'data points' from sensors overtime? Analysing data	Changing digital images LC: Can I explain that the composition of digital images can be changed? Recolouring LC: Can I explain that colours can be changed in digital images? Cloning LC: Can I explain how cloning can be used in photo editing? Combining	Using loops to create shapes LC: Can I develop the use of count-controlled loops in a different programming environment? Different loops LC: Can I explain that in programming there are infinite loops and count-controlled loops? Animate your name LC: Can I develop a design that includes two or more loops which run at the same time? Modifying a game

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the World Wide Web (WWW)? What is a website? LC: Can I describe how content can be added and accessed on the World Wide Web (WWW)? Who owns the web? LC: Can I recognise how the content of the WWW is created by people? Can I believe what I read? LC: Can I evaluate the consequences of unreliable content?	Behind the scenes LC: Can I combine audio to enhance my podcast project? Evaluating podcasts LC: Can I evaluate the effective use of audio?	Breaking things down LC: Can I decompose a task into small steps? Creating a program LC: Can I create a program that uses count-controlled loops to produce a given outcome?	LC: Can I recognise how a computer can help us to analyse data? Data for answers LC: Can I identify the data needed to answer questions? Answering my question LC: Can I use data from sensors to answer questions?	LC: Can I explain that images can be combined? Creating LC: Can I combine images for a purpose? Evaluating LC: Can I evaluate how changes can improve an image?	LC: Can I modify an infinite loop in a given program? Designing a game LC: Can I design a project that includes repetition? Creating our games LC: Can I create a project that includes repetition?
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	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.	Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure	data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback	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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Year 5					
Computing Systems & Networks **Systems and searching** Recognising IT systems in the world and how some can enable searching on the internet.	**Creating Media** **Introduction to vector graphics** Creating images in a drawing program by using layers and groups of objects	**Data & Information** **Flat-file databases** Using a database to order data and create charts to answer questions.	**Programming A** **Selection in physical computing – first lessons with MakeCode** (BBC micro:bit project)**.** Exploring conditions and selection using a programmable microcontroller.	**Programming B** **Selection in quizzes** Exploring selection in programming to design and code an interactive quiz.	**Creating Media** **Video production** Planning, capturing, and editing video to produce a short film.
Systems LC: Can I explain that computers can be connected together to form systems? Computer systems and us LC: Can I recognise the role of computer systems in our lives? Searching the web Can I identify how to use a search engine? Selecting search results LC: Can I describe how search engines select results? How search results are ranked LC: Can I explain how search results are ranked? How are searches influenced Can I recognise why the order of results is important, and to whom?	The drawing tools LC: Can I identify that drawing tools can be used to produce different outcomes? Creating images LC: Can I create a vector drawing by combining shapes? Making effective drawings Can I use tools to achieve a desired effect? Layers and objects LC: Can I recognise that vector drawings consist of layers? Manipulating objects LC: Can I group objects to make them easier to work with? Becoming a graphic designer Can I apply what I have learned about vector drawings?	Creating a paper-based database LC: Can I use a form to record information? Computer databases LC: Can I compare paper and computer-based databases? Using a database Can I outline how to answer questions by grouping and then sorting data? Using search tools LC: Can I explain that tools can be used to select specific data? Comparing data visually LC: Can I explain that computer programs can be used to compare data visually? Databases in real life Can I use a real-world database to answer questions?	Connecting Crumbles LC: Can I create a program and transfer it to a micro: bit? Combing output components LC: Can I create a simple animation to learn about sequencing and simple loops? Controlling with conditions LC: Can I start learning about inputs and outputs using buttons and icons on the display? Starting with selection LC: Can I introduce variables to track your step count and begin to use the accelerometer input? Drawing designs LC: Can I discover how logic, conditionals, inputs and outputs combine to make a simple control system?	Exploring conditions LC: Can I explain how selection is used in computer programs? Selecting outcomes LC: Can I relate that a conditional statement connects a condition to an outcome? Asking questions Can I explain how selection directs the flow of a program? Planning a quiz LC: Can I design a program that uses selection? Testing a quiz LC: Can I create a program that uses selection? Evaluating a quiz Can I evaluate my program?	What is video? LC: Can I explain what makes a video effective? Filming techniques LC: Can I use a digital device to record a video? Using a storyboard Can I capture video using a range of techniques? Planning a video LC: Can I create a storyboard? Importing and editing video LC: Can I identify that video can be improved through reshooting and editing? Video evaluation Can I consider the impact of the choices made when making and sharing a video?

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			Writing and testing algorithms LC: Can I combine my skills to create a game of chance?		
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	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	database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation	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	Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator	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
Year 6					
Computing Systems & Networks **Communication and collaboration** Exploring how data is transferred by working collaboratively online.	**Creating Media** **Webpage creation** Designing and creating webpages, considering copyright, aesthetics, and navigation.	**Programming A** **Variables in games** Exploring variables when designing and coding a game.	**Data & Information** **Introduction to spreadsheets** Answering questions by using spreadsheets to organise and calculate data.	**Creating Media** **3D modelling** Planning, developing, and evaluating 3D computer models of physical objects.	**Programming B** **Sensing light – energy awareness (BBC micro:bit project)** Using micro:bits to monitor electric light use, learn about how to collect good data and present it in order to help inform decisions about changing behaviours.
Internet addresses LC: Can I explain the importance of internet addresses? Data packets LC: Can I recognise how data is transferred across the internet? Working together	What makes a good website? LC: Can I review an existing website and consider its structure? Becoming a web designer LC: Can I plan the features of a web page?	Introducing variables LC: Can I define a 'variable' as something that is changeable? Variables in programming LC: Can I explain why a variable is used in a program?	Collecting Data LC: Can I create a data set in a spreadsheet? Formatting a spreadsheet LC: Can I build a data set in a spreadsheet? What's the formula?	Introduction to 3D modelling LC: Can I recognise that you can work in three dimensions of a computer? Modifying 3D objects LC: Can I identify that digital 3D objects can be modified?	The micro: bit LC: Can I create a program to run on a controllable device? Go with the flow LC: Can I explain that selection can control the flow of a program? Sending inputs

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Can I explain how sharing information online can help people to work together? Shared working LC: Can I evaluate different ways of working together online? How we communicate LC: Can I recognise how we communicate using technology? Communicating responsibly Can I evaluate different methods of online communication?	Copyright or CopyWRONG? Can I consider the ownership and use of images (copyright)? How does it look? LC: Can I recognise the need to preview pages? Follow the breadcrumbs LC: Can I outline the need for a navigation path? Think before you link! Can I recognise the implications of linking to content owned by other people?	Improving a game LC: Can I choose how to improve a game by using variables? Becoming a games designer LC: Can I design a project that builds on a given example? Design to code LC: Can I use my design to create a project? Improving and sharing LC: Can I evaluate my project?	LC: Can I explain that formulas can be used to produce calculated data? Calculate and duplicate LC: Can I apply formulas to data? Event planning LC: Can I create a spreadsheet to plan an event? Presenting data LC: Can I choose suitable ways to present data?	Make your own name badge Can I recognise that objects can be combined in a 3D model? Making a desk tidy LC: Can I create a 3D model for a given purpose? Planning a 3D model LC: Can I plan my own 3D model? Make your own 3D model Can I create my own digital 3D model?	Can I update a variable with a user input? Finding your way LC: Can I use a conditional statement to compare a variable to a value? Designing a step counter LC: Can I design a project that uses inputs and outputs on a controllable device? Making a step counter Can I develop a program to use inputs and outputs on a controllable device?
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, oneway, two-way, one-to-one, one-to-many.	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.	variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare	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	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	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.