



## Computing Progression of Skills, Knowledge and Vocabulary Map 2024-2025

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| <b>Understanding the World</b>   | <b>Foundation Stage</b>   |  |  |  |  |  |
|  | Children require access to a range of technologies, both digital and non-digital in their early lives. Exploring with different technologies through play provides opportunities to develop skills that children will go on to develop in their lifetimes. Investigations, scientific inquiry and exploration are essential components of learning about and with technology both digitally and in the natural world. Through technology children have additional opportunities to learn across all areas in both formal and informal ways. Technologies should be seen as tools to learn both from and with, in order to integrate technology effectively within early years practice and across the Foundation Stage. |  |  |  |  |  |
| <b>Technology</b>  | <b>Foundation Stage 1<br/>Cause and Effect, Structures</b>  |  |  | <b>Foundation Stage 2<br/>Cause and Effect, Structures</b>   |  |  |
|  | <p>Explore how things work.</p> <p>Seek to acquire basic skills in turning on and operating some digital equipment.</p> <p>Operate mechanical toys.</p> <p>Know how to operate simple equipment, for example, uses a remote control, can navigate touch-capable technology with support.</p> <p>Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets.</p>   |  |  | <p>Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.</p> <p>Know that information can be retrieved from digital devices and the internet.</p> <p>Complete a simple program on electronic devices.</p> <p>Use ICT hardware to interact with age appropriate computer software.</p> <p>Create content such as a video recording of a musical performance, stories, and/or draw a picture on a screen.</p> <p>Develop digital literacy skills by being able to access, understand and interact with a range of technologies.</p> <p>Use the internet with adult supervision to find and retrieve information of interest to them.</p> <p>Know some ways to keep safe when using the internet, for example Tell: If anything happens that makes you feel worried or uncomfortable when using the Internet, you need to tell someone; Know which trusted adults to talk to - parents, carers, teachers, etc.</p> |  |  |
| <b>Key Vocabulary</b>  | <i>On, off, button, program, forwards, backwards, turn, predict, record, play, edit, save, internet, website, safe, mute, volume.</i>   |  |  |  |  |  |
| <b>Year Group Connected Concepts</b>                                     | <b>Key Stage 1<br/>Cause and Effect, Structures</b>   |  | <b>Lower Key Stage 2<br/>Cause and Effect, Structures</b>  |  | <b>Upper Key Stage 2<br/>Cause and Effect, Structures</b>  |  |
|  | <b>Year 1</b>   | <b>Year 2</b>  | <b>Year 3</b>  | <b>Year 4</b>  | <b>Year 5</b>  | <b>Year 6</b>  |
| <b>Computing systems and networks – IT around us/sharing information</b> | <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>Recognise the uses and features of IT.</p> <p>Identify the uses of IT in school and beyond school.</p> <p>Explain how IT helps us.</p> <p>Recognise choices are made when using IT.</p> | <p>Explain how digital devices function.</p> <p>Identify input and output devices.</p> <p>Explain how a computer network can be used to share information.</p> <p>Explore how digital devices can be connected.</p> <p>Recognise the physical components of a network.</p> | <p>Describe how networks connect to other networks.</p> <p>Recognise how networked devices make up the internet.</p> <p>Know how websites can be shared via the WWW.</p> <p>Recognise how the content on the www is created by people.</p> <p>Evaluate the consequences of unreliable content.</p>   | <p>Explain that computers can be connected together to form systems.</p> <p>Recognise the role of computer systems in our lives.</p> <p>Recognise how information is transferred over the internet.</p> <p>Explain how sharing information allows people to work together online regardless of location.</p> | <p>Identify how to use a search engine.</p> <p>Describe how search engines select results.</p> <p>Explain how results are ranked.</p> <p>Recognise why the order of results is important and to whom.</p> <p>Recognise how we communicate with technology.</p> |



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|                                  |  |   |  |  | Contribute to a shared project online.   | Evaluate different methods of communication.  |
| <b>Key Vocabulary</b>            | <i>Technology, computer, mouse, trackpad, keyboard, screen, double-click, typing,</i>  | <i>Information technology (IT), computer, barcode, scanner/scan.</i>  | <i>Digital device, input, process, output, program, connection, network, switch, server, wireless access point, cables, sockets.</i>   | <i>Internet, network, router, 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, reliable, content, adverts.</i>  | <i>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.</i>  | <i>Communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, bots, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private.</i>   |
| <b>Assessment and indicators</b> | <p>Name the main parts of a computer.</p> <p>Switch on and logon to a computer on the school network.</p> <p>Use a mouse to click and drag to make objects on a screen.</p> <p>Use a mouse to open programs and files.</p> <p>Know what a keyboard is for and use it to type words on screen.</p> <p>Use the delete key to edit text and the arrow keys to move the cursor.</p> <p>Identify rules to keep us safe and healthy when we are using technology</p> | <p>Describe some uses of computers.</p> <p>Identify examples of computers and that they are a part of IT.</p> <p>Talk about uses of IT in school and beyond.</p> <p>Explain why we use IT – how it helps us.</p> <p>Talk about different rules for using IT and how these keep me safe.</p> | <p>Explain that digital devices accept inputs and produce outputs.</p> <p>Classify input and output devices.</p> <p>Explain how messages are passed through multiple connections.</p> <p>Explain the role of a network switch, server and wireless access point in a network.</p> <p>Recognise that a computer network is made up of multiple devices and name some of these, e.g. router, network switch, server.</p> | <p>Describe how networked devices connect.</p> <p>Demonstrate how information is shared across the internet (network of networks)</p> <p>Describe how to access websites on the www and describe where they are stored when uploaded to the www.</p> <p>Recognise that I can add content to the www.</p> <p>Explain that there are rules to protect content (copyright)</p> <p>Explain that websites and their content are created by people.</p> <p>Suggest who owns content on websites.</p> <p>Explain that not everything on the www is true, accurate or legal.</p> <p>Explain why caution is needed before sharing on the www.</p> | <p>Explain that computer systems involve inputs, processes and outputs and that they communicate with other devices.</p> <p>Identify tasks managed by computer systems and identify the human elements within the system.</p> <p>Explain that data is transferred in packets and that networked devices have unique addresses.</p> <p>Know that networked devices allow access to shared files (different media) stored online.</p> <p>Explain how the internet enables effective collaboration.</p> | <p>Compare results from different search engines when looking for specific information.</p> <p>Refine my search.</p> <p>Recognise the role of web crawlers (bots) in creating an index, which search engines use to return results.</p> <p>Relate search terms to the search engine's index.</p> <p>Results are ordered according to different criteria that an algorithm applies.</p> <p>Describe some of the ways search results can be influenced, e.g. advertising money.</p> <p>Know how search engines make money and their limitations.</p> <p>Identify various ways to communicate and know which are best for a certain purpose.</p> <p>Decide when to share/not share online.</p> <p>Explain that communication on the internet may not be private.</p> |



| Year Group Connected Concepts    | Key Stage 1<br>Cause and Effect, Structures   |   | Lower Key Stage 2<br>Cause and Effect, Structures  |  | Upper Key Stage 2<br>Cause and Effect, Structures   |  |
|----------------------------------|---|---|--|--|---|--|
|                                  | Year 1  | Year 2  | Year 3   | Year 4   | Year 5  | Year 6   |
| <b>Creating media</b>            | <p>To use shape tools and line tools in an art package.</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.</p> | <p>Use a digital device to take a photograph.</p> <p>Explain what makes a good photograph and make choices when taking photos.</p> <p>Decide how photos can be improved.</p> <p>Recognise that photos can be changed and use tools to do so.</p> <p>Show how music is made from a series of notes.</p> <p>Create music for a purpose.</p> | <p>Know that animation is a sequence of drawings or photographs.</p> <p>Relate animated movement with a sequence of images.</p> <p>Plan an animation.</p> <p>Identify the need to work consistently and carefully (to produce a smooth animation)</p> <p>Review and improve an animation.</p>                | <p>Explain that digital images can be changed.</p> <p>Change the composition of an image.</p> <p>Describe how images can be changed for different uses by people.</p> <p>Make good choices when selecting tools.</p> <p>Recognise that not all images are real.</p> <p>Evaluate how changes can improve an image.</p>  | <p>Identify what makes an effective video.</p> <p>Capture video using a range of techniques.</p> <p>Create a storyboard.</p> <p>Identify where a video can be improved through reshooting and editing.</p> <p>Consider the impact of the choices made when making and sharing a video. (imovie)</p>                           | <p>Use a computer to create and manipulate 3d digital objects.</p> <p>Construct a 3d model of a physical object.</p> <p>Identify that physical objects can be broken down into a collection of 3d shapes.</p> <p>Design a digital model.</p> <p>Develop and improve a 3d model. (<i>tinkercad.com</i>)</p> |
| <b>Key Vocabulary</b>            | <p><i>Paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, space bar, backspace, text cursor, toolbar, bold, italic, underline, select, font, undo, redo, format, compare.</i></p>          | <p><i>Music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, emotion, beat, instrument, open, edit. device, camera, capture, digital image, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting.</i></p>            | <p><i>Text, images, communicate, font, style, landscape, portrait, orientation, template, layout, content, desktop publishing, copy, paste, purpose, benefits, animation, flip book, stop frame, frame, sequence, image, photograph, setting, character, events, onion skinning, import, transition.</i></p> | <p><i>Audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback, 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.</i></p> | <p><i>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.</i></p> | <p><i>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.</i></p>                                       |
| <b>Assessment and indicators</b> | <p>Use a range of tools (line and shape) to draw a picture/ recreate the work of an artist.</p> <p>Make choices about colour and shapes to create work in the style of an artist.</p> <p>Explain which tools were used to create artwork.</p>   | <p>Explain how to take a photograph.</p> <p>Take photographs in portrait and landscape mode and explain which format looks better.</p> <p>Identify what is wrong with a photo and how to improve it by retaking the shot.</p>   | <p>Create an effective flip book using a sequence of pictures.</p> <p>Explain why little changes are needed for each frame</p> <p>Create a storyboard plan.</p> <p>Create an effective stop frame animation (smooth)</p>   | <p>Explore how images can be changed in real life.</p> <p>Identify changes we can make to an image.</p> <p>Change the composition of an image by selecting part of it.</p> <p>Consider why someone would want to change the</p>  | <p>Compare features in different videos.</p> <p>Experiment with camera angles when capturing video.</p> <p>Suggest filming techniques for a given purpose.</p> <p>Decide on filming techniques to be used</p>   | <p>Select, move and delete a digital 3d shape.</p> <p>Position 3d objects in relation to each other and rotate them.</p> <p>Select and duplicate 3d objects.</p> <p>Identify the 3d shapes needed to create a model.</p>   |



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|                                      | Control the brush size and colour to make dots on a page to paint a picture in the style of an artist independently.<br><br>Express preferences for creating art digitally or on paper.              | Use tools to achieve a desired effect when editing a photo<br><br>Identify which photographs are real and which have been changed.<br><br>Use a computer to create a musical pattern using three notes  | Review a sequence of frames to review my work<br><br>Explain ways to make an animation better.<br><br>Improve an animation based on feedback.   | composition and how they have.<br><br>Choose appropriate tools to retouch an image.<br><br>Identify how an image has been retouched both positively and negatively.<br><br>Sort images into fake and real and talk about fake images around me.<br><br>Compare the original image with my completed publication and say why changes have been made. | when planning video content.<br><br>Review how effective my video is and decide where editing is necessary.<br><br>Recognise that choices made when making a video will impact the quality of the final outcome.   | Decide which 3d objects are needed to construct a model.<br><br>Evaluate my model and decide how it can be improved  |
| <b>Year Group Connected Concepts</b> | <b>Key Stage 1 Cause and Effect, Structures</b>  |   | <b>Lower Key Stage 2 Cause and Effect, Structures</b>   |   | <b>Upper Key Stage 2 Cause and Effect, Structures</b>  |  |
|                                      | <b>Year 1</b>  | <b>Year 2</b>   | <b>Year 3</b>   | <b>Year 4</b>   | <b>Year 5</b>  | <b>Year 6</b>  |
| <b>Data and information</b>          | Label and count objects<br><br>Describe objects in different ways.<br><br>Count objects with the same properties.<br><br>Compare groups of objects<br><br>Answer questions about a group of objects. | Recognise that we can count and compare objects using tally charts.<br><br>Recognise that objects can be represented as pictures.<br><br>Create a pictogram.<br><br>Recognise that people can be described by attributes.<br><br>Present information using a computer.<br><br>(J2epictogram – online) | Create questions with yes/no answers.<br><br>Identify the object attributes needed to collect relevant data.<br><br>Create a branching database.<br><br>Explain why it is helpful for a database to be well structured.<br><br>Identify objects using a branching database<br><br>Compare the information shown in a pictogram with a branching database.<br><br>(J2e.com – branch) | Explain that data gathered over time can be used to answer questions.<br><br>Use a digital device to collect data automatically.<br><br>Explain that a data logger collects 'data points' from sensors over time.<br><br>Identify the data needed to answer questions.<br><br>Use collected data to answer questions.                               | Use a form to record information.<br><br>Explain how grouping and then sorting data allows it to be used to answer questions.<br><br>Explain that specific data can be selected.<br><br>Explain that computer programs can be used to compare data visually.<br><br>Apply knowledge of a database to ask and answer real-world questions (j2e com) | Identify questions which can be answered using data.<br><br>Explain that formulas can be used to produce calculated data.<br><br>Apply formulas to data including duplicating.<br><br>Create a spreadsheet to plan an event<br><br>Choose suitable ways to present data. (excel)     |
| <b>Key Vocabulary</b>                | <i>Object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same</i>  | <i>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</i>   | <i>Attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.</i>  | <i>Data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.</i>  | <i>Database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.</i>   | <i>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.</i> |





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| <p><b>Assessment and indicators</b></p>     | <p>Identify labels for a group of objects and match objects to groups.</p> <p>Describe the properties of an object.</p> <p>Count a group of objects.</p> <p>Group similar objects in more than one way by comparing them.</p> <p>Decide how to group objects to answer a question.</p>  | <p>Record data in a tally chart and compare totals in the chart.</p> <p>Use a computer to view data in a different format, e.g. picture.</p> <p>Create a pictogram and use it to answer simple questions.</p> <p>Choose suitable attributes to compare people to be able to collect data.</p> <p>Draw conclusions from data presented.</p>  | <p>Make sup yes/no questions about a collection of objects.</p> <p>Select an attribute to separate objects into groups.</p> <p>Group objects using yes/no questions.</p> <p>Prove a branching database works.</p> <p>Explain what a branching database tells me vs what a pictogram tells me.</p>   | <p>Suggest questions that can be answered using a given data set.</p> <p>Use data from sensors (input devices) to answer a given question.</p> <p>Identify a suitable place to collect data over time and talk about the data you have captured.</p> <p>Plan how to collect data using a data logger and propose a question that could be answered.</p> <p>Import a data set into software and use it to answer questions.</p> <p>Draw conclusions from the data collected and explain the benefits of using a data logger</p> | <p>Explain how information can be recorded in forms.</p> <p>Order, sort and group data.</p> <p>Choose which field to sort by to answer a given question.</p> <p>Combine grouping and sorting to answer specific questions.</p> <p>Choose which field and value are required to answer a question</p> <p>Use 'AND' and 'OR' to refine selection of data.</p> <p>Explain the benefits of using a computer to create graphs.</p> <p>Ask questions that will need more than one field to answer.</p> | <p>Answer questions from existing data sets.</p> <p>Build a data set in a spreadsheet.</p> <p>Create a formula which involves a range of cells.</p> <p>Identify that changing inputs changes outputs when using a formula.</p> <p>Apply a formula to multiple cells by duplicating it.</p> <p>Apply a formula to calculate data to answer questions.</p> <p>Use a graph to show answers to questions.</p>   |
| <p><b>Year Group Connected Concepts</b></p> | <p><b>Key Stage 1 Cause and Effect, Structures</b></p>  |   | <p><b>Lower Key Stage 2 Cause and Effect, Structures</b></p>  |  | <p><b>Upper Key Stage 2 Cause and Effect, Structures</b></p>   |   |
|   | <p><b>Year 1</b></p>  | <p><b>Year 2</b></p>  | <p><b>Year 3</b></p>  | <p><b>Year 4</b></p>   | <p><b>Year 5</b></p>   | <p><b>Year 6</b></p>  |
| <p><b>Programming</b></p>                   | <p><b>Bluebots</b></p> <p>Explain what a given command will do.</p> <p>Act out a given word.</p> <p>Combine direction commands to create a sequence. (robot)</p> <p>To plan a simple program. (algorithm)</p> <p>Find more than one solution to a problem</p> <p>Show that a series of commands can be joined together for a given purpose.</p> <p>Explain that each sprite has its own instructions.</p> <p>Design the parts of a project (on screen).</p> | <p><b>Espresso</b></p> <p>Describe a series of instructions as a sequence.</p> <p>Explain what happens when we change the order of instructions.</p> <p>Use logical reasoning to predict the outcome of a program.</p> <p>Explain that programming projects can have code and artwork</p> <p>Design an algorithm.</p> <p>Create and debug a program that I have written.</p> <p>Explain that a sequence of commands has a start and an outcome.</p> <p>Create a program using a given design.</p> | <p><b>Scratch</b></p> <p>Explore a new programming environment.</p> <p>Identify that commands have an outcome.</p> <p>Explain that a program has a start.</p> <p>Recognise that a sequence of commands have an order.</p> <p>Change the appearance of my project.</p> <p>Create a project from a task description.</p> <p>Explain how a sprite moves in an existing project.</p> <p>Create a program to move a sprite in 4 directions.</p> <p>Adapt a program to a new context.</p> | <p><b>Scratch</b></p> <p>Identify that accuracy in programming is important.</p> <p>Create a program.</p> <p>Explain what 'repeat' means.</p> <p>Modify a count controlled loop to produce a given outcome.</p> <p>Decompose a task into smaller steps.</p> <p>Create a program that uses count-controlled loops to produce a given outcome.</p> <p>Develop the use of count controlled loops in another programming environment.</p> <p>Explore the use of infinite loops as well as count controlled loops.</p>              | <p><b>Scratch</b></p> <p>Control a simple circuit. connected to a computer</p> <p>Write a program with count controlled loops.</p> <p>Explain that a loop can stop when a condition is met.</p> <p>Explain that a loop can be used to continuously check if a condition has been met.</p> <p>Design a physical project that uses selection.</p> <p>Create a program that controls a physical computing project.</p> <p>Explain how selection is used in programs.</p>                            | <p><b>Scratch</b></p> <p>Define a variable as something that is changeable.</p> <p>Explain why variables are used in programs.</p> <p>Choose how to improve a game using variables.</p> <p>Design a project that builds on a given example.</p> <p>Use a design to create a project.</p> <p>Evaluate the project.</p> <p>Create a program to run on a controllable device.</p> <p>Explain that selection can control the flow of a program.</p> <p>Update a variable with a user input.</p> |



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|                                  | Use algorithms to create a program.   | Change a given design.<br>Create a program using my own design.<br>Decide how my project can be improved.   | Identify and fix bugs.<br>Design and create a maze based challenge.   | Modify an infinite loop in a given program.<br>Design a project that includes repetition with multiple loops running at the same time.  | Design a program which uses selection.<br>Create a program with selection and evaluate it.  | Use a conditional statement to compare a variable to a value.<br>Design and develop a program that uses inputs and outputs on a controllable device.   |
| <b>Key Vocabulary</b>            | <i>Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program, ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, background, delete, reset, predict, effect, change, value, instructions, design.</i>  | <i>instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition, sequence, command, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, build, match, compare, features, evaluate, code.</i>   | <i>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, motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, test, actions.</i>  | <i>Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure, Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, algorithm, debug, refine, evaluate.</i>   | <i>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, selection, action, debug, circuit, power, cell, buzzer Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, question, answer, task, design, implement, test, run, setup, operator.</i>                      | <i>variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare Micro: bit, Make Code, 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.</i>                                       |
| <b>Assessment and indicators</b> | <p>Predict the outcome of a command on a device</p> <p>Give and follow instructions</p> <p>Experiment with turn and move commands to move a robot.</p> <p>Plan the order of commands in a sequence.</p> <p>Run a command on a device and debug it if it doesn't do what was expected.</p> <p>Identify different solutions and plan more than one program to get to the same place.</p> <p>Use a start block and combine multiple blocks in a program.</p> | <p>Explain what a sequence is</p> <p>Create different algorithms for a range of sequences.</p> <p>Show the difference in outcomes between two sequences.</p> <p>Program an algorithm on a floor robot.</p> <p>Predict the outcome of a sequence and compare my prediction to the program outcome.</p> <p>Create an algorithm and explain the choices made for it's design.</p> <p>Use algorithms to create a program to meet a goal.</p> <p>Explain what an algorithm should achieve.</p> | <p>Identify objects in a scratch project. (sprites, backdrops) – New programming environment.</p> <p>Know that each sprite is controlled by the blocks I use and these lead to an outcome.</p> <p>Create a series of connected commands.</p> <p>Start a program in different ways.</p> <p>Combine sound commands into a sequence (order)</p> <p>Make design choices in a project.</p> <p>Decide the actions for each sprite in a program.</p> | <p>Explain the effect of changing a value of a command (changing accuracy)</p> <p>Use a template to create a design for my program.</p> <p>Identify everyday tasks that include repetition as a sequence.</p> <p>Use a count controlled loop to produce a given outcome.</p> <p>Choose which values to modify in a loop.</p> <p>Break a problem down into smaller parts so make it manageable.</p> <p>Design and create a program using count controlled loops.</p> | <p>Program a micro controller to control LEDs.</p> <p>Design sequences that use count controlled loops to control outputs.</p> <p>Explain that a condition being met can start/end an action.</p> <p>Program a microcontroller to respond to an input.</p> <p>Identify a condition and action in a project. Explain how they link.</p> <p>Design a project using selection and explain what my project will do.</p> <p>Use selection to produce an intended outcome, e.g. controlling something physical.</p> | <p>Explain that variables can hold numbers, letters (names and values) and that these can change.</p> <p>Identify variables as placeholders in memory for a single value. Show how they are useful in programs.</p> <p>Evaluate a game with variables to identify how to improve it.</p> <p>Design and create a program building on existing code.</p> <p>Test, evaluate and extend a project further with more variables.</p> <p>Apply my programming knowledge to create a</p> |



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|   | <p>Create algorithms for each sprite to move as intended.</p> <p>Choose a suitable design for the project. (artwork/backdrop)</p> <p>Test a program I have created.</p>  | <p>Test and debug each part of the program.</p> <p>Show how to run a program from start to end.</p> <p>Decide which blocks to use to meet a given design</p> <p>Choose backgrounds, characters and blocks for my design.</p> <p>Compare my project to my design and improve it by adding features</p> | <p>Implement my algorithm as code to meet the needs of the task.</p> <p>Explain which keys to use to move a sprite.</p> <p>Program movement in 4 directions. .</p> <p>Choose blocks to set up my program.</p> <p>Change a piece of code to work for a new outcome.</p> <p>Test a program against a given goal to identify any bugs that need fixing.</p> <p>Evaluate my project.</p> | <p>Debug a program to ensure it meets a specific outcome.</p> <p>Explore when to use infinite loops and count controlled loops in different programming languages.</p> <p>Identify which parts of a loop can be modified.</p> <p>Develop my own design explaining what my project will do.</p> <p>Select key parts of a given project to use in my own design.</p> | <p>Identify and modify a condition in a program. Explain how it works.</p> <p>Use a design format to outline a given task for a project.</p> <p>Implement an algorithm to create a program.</p> <p>Test a program.</p> <p>Extend the program further and identify how it could be improved.</p> | <p>program in a new programming environment.</p> <p>Transfer a program to a controllable device.</p> <p>Determine the flow of a program using selection. (if, then, else) and explain how this works.</p> <p>Use a condition (input) to change a variable.</p> <p>Use an operator block in an if, then statement (condition) to check a variable.</p> <p>Create and test a program based on a design.</p> |
| <b>Year Group Connected Concepts</b>    | <b>Key Stage 1 Cause and Effect, Structures</b>  |   | <b>Lower Key Stage 2 Cause and Effect, Structures</b>  |  | <b>Upper Key Stage 2 Cause and Effect, Structures</b>   |   |
|   | <b>Year 1</b>  | <b>Year 2</b>   | <b>Year 3</b>  | <b>Year 4</b>  | <b>Year 5</b>   | <b>Year 6</b>   |
| <b>Digital literacy/ creating media</b> | <p>Use a computer to write.</p> <p>Add and remove text on a computer.</p> <p>Know that the look of text can be changed on a computer.</p> <p>Make careful choices when changing text.</p> <p>Explain why tools were selected.</p> <p>Compare typing on a computer to writing on paper.</p> | <p>Say how music can make us feel</p> <p>Identify that there are patterns in music</p> <p>Show how music is made from a series of notes</p> <p>Show how music is made from a series of notes</p> <p>Create music for a purpose</p> <p>Review and refine our computer work</p>                         | <p>Recognise how text and images convey information.</p> <p>Recognise that text and layout can be edited.</p> <p>Choose appropriate page settings.</p> <p>Add content to a desktop publishing publication.</p> <p>Consider how different layouts can suit different purposes.</p> <p>Consider the benefits of desktop publishing.</p>  | <p>Identify that sound can be digitally recorded.</p> <p>Use a digital device to record sound.</p> <p>Explain that a digital recording is stored as a file and can be changed through editing.</p> <p>Show that different types of audio can be combined and played together.</p> <p>Evaluate editing choices media.</p>   | <p>Use tools to achieve a desired effect.</p> <p>Recognise vector drawings consist of layers.</p> <p>Group objects to make them easier to work with.</p> <p>Evaluate my vector drawings. (Google drawings)</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 (copyright)</p> <p>To recognise the need to preview pages</p> <p>To outline the need for a navigation path</p> <p>To recognise the implications of linking to content owned by other people.</p>   |
| <b>Key Vocabulary</b>                   | <p>Digital Literacy, arrow, undo, keys, mouse, bold, italics, alignment, font, format, shift, space, input, text, publishing, logging in, mouse, keyboard</p>  | <p>Music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.</p>  | <p>Digital Literacy, transfer, PowerPoint, merge cells, columns, save, file, folder, format, wrapping, rotate, re-size, auto shapes, text boxes, tab, indent, cut, keyboard shortcuts, logging in, mouse, keyboard</p>   | <p>Audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.</p>  | <p>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</p>   | <p>website, web page, browser, media, Hypertext Mark-up Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink,</p>  |



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|                                  |  |  |  |  |  | <i>subpage, evaluate, implication, external link, embed.</i>  |
| <b>Assessment and indicators</b> | <p>Recognise and find keys on a keyboard to type.</p> <p>Use letters, numbers, the space key and delete key to enter/remove text.</p> <p>Identify the toolbar and use bold, italics and underline to alter text.</p> <p>Change fonts.</p> <p>Choose how much of a text to change by selecting a word by double clicking, or selecting all of the text by clicking and dragging with the mouse.</p> <p>Decide if changes have improved writing. Explain which tools were used to do so.</p> <p>Explain preferences for typing or writing.</p> | <p>Describe how music makes me feel</p> <p>Create a rhythm pattern</p> <p>Use a computer to create a musical pattern using three notes and refine it</p> <p>Create music and explain my choices</p> <p>Explain how I made my work better</p> | <p>Change font style, size, and colours to convey information for a given purpose.</p> <p>Know that text can be changed to communicate more clearly.</p> <p>Understand the term page orientation and can choose a suitable layout for a purpose, paste text and images.</p> <p>Choose the best location for content and make changes to layout after it has been added.</p> <p>Compare work made on desktop publishing and by hand and explain why desktop publishing might be useful.</p> | <p>Identify the inputs and outputs required to play audio or record sound.</p> <p>Use a device to record audio and playback sound and save a digital recording as a file.</p> <p>Discuss how a recording can be altered.</p> <p>Open a digital recording from a file and edit sections.</p> <p>Choose suitable sounds to combine in a podcast.</p> <p>Suggest improvements to a digital recording and export them.</p> | <p>Modify objects to create different effects.</p> <p>Use the zoom tool to help add detail to drawings.</p> <p>Explain that each added object makes a layer.</p> <p>Change the order of layers in a vector drawing.</p> <p>Identify front and back layers in a drawing.</p> <p>Group to create a single object.</p> <p>Suggest improvements to a vector drawing.</p> | <p>Recognise the common features of a web page</p> <p>Draw a web page layout that suits my purpose</p> <p>Suggest media to include on my page</p> <p>Evaluate what my webpage looks like and suggest/make edits</p> <p>Explain what a navigation path is and why they are useful.</p> <p>Make multiple webpages and link them with hyperlinks to aid navigation.</p> <p>Explain the implication of linking to content to content owned by other people.</p> |