

## CGPS Curriculum - Subject Knowledge Overview

### Computing

#### Year Group Curriculum:

[KS1 - Year B \(25-26\)](#)

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KSI Year B (2025-26)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>1. Computing systems and networks – Technology around us</b>	<b>2. Creating media – Digital painting</b>	<b>3. Programming A – Moving a robot</b>	<b>4. Data and information – Grouping data</b>	<b>5. Creating media – Digital writing</b>	<b>6. Programming B - Programming animations</b>
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Identify examples of technology and explain how they can help us</li> <li>* Recognise that a computer is an example of technology</li> <li>* Describe what a keyboard is for</li> <li>* Know a computer stores work in files</li> <li>* Give examples of rules to keep them safe and healthy when they are using technology in and beyond the home</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Explain what different freehand tools do</li> <li>* Recognise that computers can be used to create a range of art</li> <li>* Recognise a tool can be adjusted</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Explain what a given command does</li> <li>* Predict the outcome of a sequence involving up to four commands</li> <li>* Match a command to an outcome</li> <li>* Understand that a program is a set of commands that a computer can run</li> <li>* Know that a series of instructions can be issued before they are enacted</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Explain how objects have been grouped</li> <li>* Know that labels are used to identify a group with similar characteristics</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Know that a keyboard is used to enter text into a computer</li> <li>Know that the appearance of text can be changed</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Explain what a sprite is</li> <li>* Compare different programming blocks</li> <li>* Know a series of commands can be joined together to form a program</li> <li>* Understand that a program is a set of commands a computer can run</li> </ul>
<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Choose a piece of technology to do a job</li> <li>Identify the main parts of a computer</li> <li>* Use a keyboard to type their name on a</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Choose appropriate paint tools to recreate a picture</li> <li>* Use freehand tools, changing the colour and brush size</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Predict the outcome of a command on a device</li> <li>* Run a command on a floor robot</li> <li>* Choose a command for a given purpose</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Group the same objects in more than one way</li> <li>* Count how many objects are in group and identify which has more</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Recognise some keys and use them to enter text on to a computer/device including some basic punctuation</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Predict the outcome of a command</li> <li>* List commands that can be used on a device</li> <li>* Match a command to an outcome</li> </ul>	

	<p><i>computer</i>                  * Turn on the computer and log on with an aid                  * Use a mouse in different ways – click, select and drag                  * Use the keyboard to edit text and delete letters                  * Demonstrate that they can use technology safely</p>	<p>* Use shape and line tools for precision, changing the size, shape and colour                  * Use the undo button to correct mistakes                  * Use the fill tool to colour an enclosed area</p>	<p>* Choose a series of words that can be enacted as a program                  * Build a sequence of commands in steps from a given starting point                  * Combine commands in a program                  * Run a program on a device                  * Debug a program to correct errors</p>	<p>* Record how many objects are in a group                  * Group objects to answer a question                  * Compare objects to group them explaining what has been found</p>	<p>* Add spaces between most words using a space bar                  * Use the backspace key to delete text only as far as the section to be edited                  * Use the toolbar to find and use the bold, italic, and underline tool</p>	<p>* Recognise how to run a command                  * Run different commands for different sprites                  * Choose a command for a given purpose                  * Build a sequence of commands in steps                  * Use the start command to initialise a program                  * Debug a program</p>
<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>	<p><b>Key vocabulary</b>                  *</p>



Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>1. Computing systems and networks – Connecting computers</b>	<b>2. Creating media - Stop-frame animation</b>	<b>3. Programming A - Sequencing sounds</b>	<b>4. Data and information – Branching databases</b>	<b>5. Creating media – Desktop publishing</b>	<b>6. Programming B - Events and actions in programs</b>
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* What an input is.</li> <li>* That a process acts on the inputs.</li> <li>* That an output is produced by the process.</li> <li>* How changing the process can affect the output.</li> <li>* That a digital device is made up of several parts.</li> <li>* That computers can be connected to each other.</li> <li>* The benefits of computer networks.</li> <li>* Know examples of network devices around me.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* That an animation is made up of a sequence of images.</li> <li>* That a capturing device needs to be in a fixed position.</li> <li>* That smaller movements create smoother animation.</li> <li>* The impact of adding other media to an animation.</li> <li>* That a project must be exported so it can be shared.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* That programs start because of an input.</li> <li>What a sequence is.</li> <li>That a program includes sequences of commands.</li> <li>That the sequence of a program is a process.</li> <li>That the order of commands can affect a program's output.</li> <li>That different sequences can achieve the same output.</li> <li>That different sequences can achieve different outputs.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* That a branching database is an identification tool.</li> <li>* That a data set can be structured using yes/no questions.</li> <li>* That a well-structured branching database will enable you to identify objects using fewer questions.</li> <li>* Identify attributes that you can ask yes/no questions about.</li> <li>* Select an attribute to separate objects into two similarly sized groups.</li> <li>* Suggest real-world applications for branching databases.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Recognise how text and images can be used together to convey information.</li> <li>* Define landscape and portrait as two different page orientations.</li> <li>* Consider how different layouts can suit different purposes.</li> <li>* Recognise that DTP pages can be structured with placeholders.</li> <li>* Recognise how different font styles and effects are used for particular purposes.</li> <li>* Consider the benefits of using a DTP application.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* That a program is a set of instructions.</li> <li>* That a sequence can be repeated.</li> <li>* That a program can contain a loop.</li> <li>* That a loop repeats a sequence.</li> <li>* That loops can be repeated a fixed number of times.</li> </ul>

	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Identify input and output devices.</li> <li>* Explain that a computer system accepts an input and processes it to produce an output.</li> <li>* Explain how computer systems can change the way that we work.</li> <li>* Identify how devices in a network are connected with one another.</li> <li>* Recognise that a network is made up of a number of components.</li> <li>* Explain the role of a switch, server, and wireless access point in a network.</li> <li>* Explain how information is passed through multiple connections.</li> <li>* Explain how a computing network can be used to share information.</li> <li>* Explain how networks can be connected to other networks.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Set up the work area with an awareness of what will be captured.</li> <li>* Plan an animation using a storyboard.</li> <li>* Capture an image.</li> <li>* Use the onion skinning tool to review subject position.</li> <li>* Move a subject between captures.</li> <li>* Explain the need for consistency in working.</li> <li>* Review a captured sequence of frames as an animation.</li> <li>* Remove frames to improve an animation.</li> <li>* Add media to enhance an animation.</li> <li>* Review a completed project.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Order commands in a program.</li> <li>* Build a sequence of commands.</li> <li>* Combine commands in a program.</li> <li>* Create a sequence of commands to produce a given outcome.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Investigate questions with yes/no answers.</li> <li>* Create questions with yes/no answers.</li> <li>* Choose questions that will divide objects into evenly sized subgroups.</li> <li>* Identify an object using a branching database.</li> <li>* Repeatedly create subgroups of objects.</li> <li>* Retrieve information from different levels of the branching database.</li> <li>* Relate two levels of a branching database using AND.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Show that page orientation can be changed.</li> <li>* Organise text and image placeholders in a page layout.</li> <li>* Add text to a placeholder.</li> <li>* Edit text in a placeholder.</li> <li>* Choose fonts and apply effects to text.</li> <li>* Add and remove images to and from placeholders.</li> <li>* Move, resize, and rotate images.</li> <li>* Review a document.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Build a program using a block-based visual programming language.</li> <li>* Create a sequence of instructions.</li> <li>* Repeat a sequence of instructions to improve the efficiency of a program.</li> <li>* Add a loop to a program.</li> <li>* Use a loop to repeat a sequence a fixed number of times.</li> </ul>
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	<p><b>Key vocabulary</b>  <i>* digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets</i></p>	<p><b>Key vocabulary</b>  <i>* text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.</i></p>	<p><b>Key vocabulary</b>  <i>* animation, flip book, stopframe, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.</i></p>	<p><b>Key vocabulary</b>  <i>* attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.</i></p>	<p><b>Key vocabulary</b>  <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, code.</i></p>	<p><b>Key vocabulary</b>  <i>* motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.</i></p>
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Year 4 Year A (2026-27)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>1. Computing systems and networks – The Internet</b>	<b>2. Creating media - Audio production</b>	<b>3. Programming A – Repetition in shapes</b>	<b>4. Data and information – Data logging</b>	<b>5. Creating media – Photo editing</b>	<b>6. Programming B – Repetition in games</b>
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* How information can be shared via the World Wide Web.</li> <li>* That the World Wide Web is part of the internet.</li> <li>* That the World Wide Web comprises of websites and web pages.</li> <li>* That the global interconnection of networks is the internet.</li> <li>* The need for security on the internet.</li> <li>* The benefits of the World Wide Web.</li> <li>* How networks connect to other networks.</li> <li>* That the World Wide Web is created, owned, and shared by people.</li> <li>* That the internet</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* That sound can be recorded.</li> <li>* That an input device is needed to record sound. Identify that output devices are needed to play audio.</li> <li>* That recorded audio can be stored on a computer.</li> <li>* That sound can be represented visually as a waveform.</li> <li>* That audio can be edited.</li> <li>* That audio can be layered so that multiple sounds can be played at the same time.</li> <li>* Consider the results of editing choices made.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Relate what "repeat" means.</li> <li>* That in programming there are indefinite loops and count-controlled loops.</li> <li>* That an indefinite loop will run until the program is stopped.</li> <li>* That you can program a loop to stop after a specific number of times.</li> <li>* The importance of instruction order in a loop.</li> <li>* Tools that enable more than one process to be run at the same time (concurrency).</li> <li>* That not all tools enable more than one process to be run at</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Sensors are input devices.</li> <li>A sensor can be used as an input device for data collection.</li> <li>A data logger captures 'data points' from sensors over time.</li> <li>That some data can be logged over time.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Digital images can be manipulated.</li> <li>* Digital images can be changed for different purposes.</li> <li>* Tools should be selected carefully for particular purposes.</li> <li>* The impact of changes made on the quality of the image need to be considered.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* An infinite loop repeats instructions forever.</li> <li>* Infinite loops are intended for programs that should run endlessly.</li> <li>* A count-controlled loop repeats commands a specific number of times.</li> <li>* A count-controlled loop is used when the number of repetitions is known.</li> <li>* A condition-controlled loop stops when a condition is met.</li> <li>* Conditions can be met by variables like 'score' or physical input like a keypress.</li> </ul>

	enables us to view the World Wide Web.		once.			
	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Describe how to access the World Wide Web.</li> <li>* Describe the types of content/media that can be added, created, and shared on the World Wide Web.</li> <li>* Describe the current limitations of World Wide Web media.</li> <li>* Evaluate the reliability of content and the consequences of unreliable content.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Record sound using a computer.</li> <li>* Play recorded audio.</li> <li>* Import audio into a project.</li> <li>* Delete a section of audio.</li> <li>* Change the volume of tracks in a project.</li> <li>* Consider the results of editing choices made.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Identify everyday tasks that include repetition as part of a sequence, e.g., brushing teeth, dance moves.</li> <li>* List an everyday task as a set of instructions including repetition.</li> <li>* Explain that we can use a loop command in a program to repeat instructions.</li> <li>* Identify patterns in a sequence.</li> <li>* Identify a loop within a program.</li> <li>* Identify patterns in a sequence, e.g., 'step 3 times' means the same as 'step, step, step'.</li> <li>* Use an indefinite loop to produce a given outcome.</li> <li>* Use a count-controlled loop to produce a given outcome.</li> <li>* Justify when to use a loop and when not to.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Suggest questions that can be answered using a table of data.</li> <li>* Use a digital device to collect data automatically.</li> <li>* Choose an appropriate timeframe when collecting data automatically.</li> <li>* Use a set of logged data to find information.</li> <li>* Use a computer program to sort data by one attribute.</li> <li>* Export information in different formats.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Use an application to change the whole of a digital image.</li> <li>* Change the composition of a digital image by rotating and flipping.</li> <li>* Change the composition of a digital image by cropping.</li> <li>* Adjust colours of a digital image.</li> <li>* Apply filters to a digital image.</li> <li>* Apply effects to a digital image.</li> <li>* Use an application to change part of a digital image.</li> <li>* Select part of a digital image.</li> <li>* Use clone, copy, and paste to change the composition of a digital image.</li> <li>* Use an application to add to the composition of a digital image.</li> </ul>	<p><b>Key concept/skills</b></p> <ul style="list-style-type: none"> <li>* Identify everyday tasks that include repetition as part of a sequence, e.g., brushing teeth, dance moves.</li> <li>* List an everyday task as a set of instructions including repetition.</li> <li>* Explain that we can use a loop command in a program to repeat instructions.</li> <li>* Identify patterns in a sequence.</li> <li>* Identify a loop within a program.</li> <li>* Identify patterns in a sequence, e.g., 'step 3 times' means the same as 'step, step, step'.</li> <li>* Use an indefinite loop to produce a given outcome.</li> <li>* Use a count-controlled loop to produce a given outcome.</li> <li>* Justify when to use a loop and when not to.</li> </ul>



			<p><i>* Plan a program that includes appropriate loops to produce a given outcome.</i></p> <p><i>* Create two or more sequences that run at the same time.</i></p>		<p><i>* Use cloning to retouch a digital image.</i></p> <p><i>* Add text to a digital image.</i></p>	<p><i>* Plan a program that includes appropriate loops to produce a given outcome.</i></p> <p><i>* Create two or more sequences that run at the same time.</i></p>
	<p><b>Key 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</p>	<p><b>Key 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.</p>	<p><b>Key vocabulary</b> Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure.</p>	<p><b>Key vocabulary</b> data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.</p>	<p><b>Key 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.</p>	<p><b>Key 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.</p>



Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	1. Computing systems and networks - systems and searching	2. Creating media - Video production	3. Programming A – Selection in physical computing	4. Data and information – Flat-file databases	5. Creating media - Introduction to vector graphics	6. Programming B – Selection in quizzes
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A system is a set of interconnected parts that work together.</li> <li>* IT systems are formed when computers are connected together.</li> <li>* Data can be transferred between IT systems.</li> <li>* Large IT systems have inputs, processes, and outputs.</li> <li>* Search engines are examples of large IT systems.</li> <li>* Search engines create indices, and these indices are different for each search engine.</li> <li>* Web crawlers play a role in creating the search engine index.</li> <li>* Search results are ranked (ordered) to</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Different devices can and can't record video.</li> <li>* Video is a visual media format.</li> <li>* Filming techniques can be used to create different effects.</li> <li>* The purpose of a storyboard</li> <li>* There are limitations to editing video on a recording device.</li> <li>* Videos can be improved through reshooting or editing.</li> <li>* Projects need to be exported to be shared.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A condition can only be true or false.</li> <li>* A count-controlled loop contains a condition.</li> <li>* A condition-controlled loop will stop when a condition is met.</li> <li>* When a condition is met, a loop will complete a cycle before it stops.</li> <li>* Selection can be used to branch the flow of a program.</li> <li>* A loop can be used to repeatedly check whether a condition has been met.</li> <li>* The order of instructions in an 'if...then...else...' statement is important.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A computer program can be used to organize data.</li> <li>* Ordering data allows us to answer certain questions.</li> <li>* Tools can be used to select data to answer questions.</li> <li>* Operands (like greater than, less than) can be used to filter data.</li> <li>* 'AND' and 'OR' can be used to refine data selection.</li> <li>* Computer programs can be used to compare data visually.</li> <li>* We present information to communicate a message.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A vector drawing comprises separate objects drawn with lines.</li> <li>* Each object in a drawing is in its own layer.</li> <li>* Vector images can be scaled without impact on quality.</li> <li>* Objects can be modified in groups.</li> <li>* Alignment and size guides can help create a more consistent drawing.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A condition can only be true or false.</li> <li>* A count-controlled loop contains a condition.</li> <li>* A condition-controlled loop will stop when a condition is met.</li> <li>When a condition is met, a loop will complete a cycle before it stops.</li> <li>Selection can be used to branch the flow of a program.</li> <li>A loop can be used to repeatedly check whether a condition has been met.</li> <li>The importance of instruction order in 'if...then...else...' statements.</li> </ul>

<p><i>make them more useful.</i> * Search engines generate revenue by selling targeted advertising space.</p>					
<p><b>Key concept/skills</b> * Describe the role of a particular IT system in their own life. * Describe the input and output of a search engine. * Demonstrate that using different search terms produces different results. * Explain how search results are selected. * Explain how ranking is determined by rules, and that different search engines use different rules. * Explain why the order of search results is important and to whom. * Evaluate the results produced by different search terms. * Identify some of the limitations of search</p>	<p><b>Key concept/skills</b> * Identify features of a video recording device or application. * Use different camera angles. * Use pan, tilt, and zoom. * Combine filming techniques for a given purpose. * Determine what scenes will convey their idea. * Decide what changes they will make when editing. * Choose to reshoot a scene or improve it later through editing. * Use split, trim, and crop to edit a video.</p>	<p><b>Key concept/skills</b> * Compare a count-controlled loop with a condition-controlled loop. * Create a condition-controlled loop. * Use a condition in an 'if...then...' statement to start an action. * Use selection to switch the program flow in one of two ways. * Use a condition in an 'if...then...else...' statement to produce given outcomes.</p>	<p><b>Key concept/skills</b> * Choose different ways to view data. * Ask questions that need more than one attribute to answer. * Choose which attribute and value to search by to answer a given question (operands). * Choose which attribute to sort data by to answer a given question. * Choose multiple criteria to search data to answer a given question (using AND and OR). * Select an appropriate graph to visually compare data. * Choose suitable ways to present information to other people.</p>	<p><b>Key concept/skills</b> * Add an object to a vector drawing. * Select one object or multiple objects. * Move objects between the layers of a drawing. * Group and ungroup selected objects. * Duplicate objects using copy and paste. * Delete objects. * Modify objects. * Reposition objects. * Combine options to achieve a desired effect. * Consider the impact of choices made. * Create a vector drawing for a given purpose.</p>	<p><b>Key concept/skills</b> * Choose a condition to use in a program. * Compare a count-controlled loop with a condition-controlled loop. * Create a condition-controlled loop. * Use a condition in an 'if...then...' statement to start an action. * Use selection to switch program flow. * Use 'if...then...else...' to switch program flow in one of two ways.</p>



	engines.					
	<p><b>Key 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.</p>	<p><b>Key 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.</p>	<p><b>Key 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</p>	<p><b>Key vocabulary</b> database, data, information, record, field, sort, order; group, search, value, criteria, graph, chart, axis, compare, filter; presentation.</p>	<p><b>Key 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</p>	<p><b>Key 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</p>



Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	1. Computing systems and networks - Communication and collaboration	2. Creating media – Web page creation	3. Programming A – Variables in games	4. Data and information - Introduction to Spreadsheets	5. Creating media – 3D Modelling	6. Programming B - Sensing movement
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Data is transferred across networks using agreed protocols (methods).</li> <li>* Connections between computers allow access to shared stored files.</li> <li>* Data is transferred in packets.</li> <li>* Communicating and collaborating using the internet can be public or private.</li> <li>* Computers connected to the internet allow people in different places to work together.</li> <li>* Different types of media can be shared through the internet (e.g., text, images, video).</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A website is a set of hyperlinked web pages.</li> <li>* The relationship between HTML and the visual appearance of a page.</li> <li>* Web pages can contain different media types (e.g., images, video).</li> <li>* The basic components of a web page layout.</li> <li>* The need for a navigation path (like a menu).</li> <li>* Importance of considering the ownership and use of images (copyright).</li> <li>* Pages need to be previewed on different devices to check the layout.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A variable is something that is changeable.</li> <li>* A program variable is a placeholder in memory for a single value.</li> <li>* A variable has a name and a value.</li> <li>* There is only one value for a variable at any one time.</li> <li>* If you change the value of a variable, you cannot access the previous value (cannot undo).</li> <li>* If you read a variable, the value remains.</li> <li>* A variable can be set as a constant (fixed value).</li> <li>* The name of a variable needs to be unique.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Questions can be answered using spreadsheet data.</li> <li>* There are different software tools to work with data.</li> <li>* Formulas can be used to produce calculated data.</li> <li>* An item of data is stored in a spreadsheet.</li> <li>* The data type determines how a spreadsheet can process the data.</li> <li>* Cells can be linked to each other.</li> <li>* A cell's value automatically updates when the value in a linked cell is changed.</li> <li>* Data should be</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* 3D models can be created on a computer.</li> <li>* A 3D environment can be viewed from different perspectives.</li> <li>* Digital tools can be used to manipulate 3D objects.</li> <li>* Complex artifacts can be broken down into a collection of 3D objects.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* A variable is something that is changeable. Information that changes, like a football score, is an example of a variable.</li> <li>* A program variable is a placeholder in memory for a single value.</li> <li>* A variable has a name and a value.</li> <li>* Variables can hold numbers (integers) or letters (strings).</li> <li>* A variable can be set as a constant (a fixed, unchanging value).</li> <li>* If a variable's value is changed, the previous value cannot be accessed.</li> <li>* The name of a variable is meaningless to the computer but must be</li> </ul>

				<p>organised in a spreadsheet. * Results must be evaluated against the original question.</p>		<p>unique.</p>
	<p><b>Key concept/skills</b> * Discuss the opportunities that technology offers for communication and collaboration. * Outline methods for communicating and collaborating using the internet. * Choose methods of internet communication and collaboration for given purposes. * Evaluate different methods of online communication and collaboration. * Decide what they should and should not share online.</p>	<p><b>Key concept/skills</b> * Review an existing website's structure (navigation and header). * Create a new blank web page. * Add text to a web page and set/change the style of that text. * Embed media (like images or video) in a web page. * Preview a web page on different screen sizes. * Insert hyperlinks between pages. * Insert hyperlinks to another external site. * Add web pages to a website structure.</p>	<p><b>Key concept/skills</b> * Identify a variable in an existing program. * Identify that variables can hold numbers (integers) or letters (strings). * Choose a name that identifies the role of a variable to make it easier for humans to understand it. * Decide where in a program to set a variable. * Update a variable with a user input. * Use an event in a program to update a variable. * Use a variable in a conditional statement to control the flow of a program. * Use the same variable in more than one location in a program.</p>	<p><b>Key concept/skills</b> * Calculate data using a formula for each operation. * Use existing cells within a formula. * Use functions to create new data. * Choose suitable ways to present spreadsheet data.</p>	<p><b>Key concept/skills</b> * Position 3D shapes relative to one another. * Use digital tools to modify 3D objects. * Show how placeholders can create holes in 3D objects. * Use digital tools to accurately size 3D objects. * Combine objects to create a 3D digital artefact. * Construct a 3D model which reflects a real-world object.</p>	<p><b>Key concept/skills</b> * Identify a variable in an existing program. * Experiment with the value of an existing variable. * Choose a name that clearly identifies the variable's role (for human readability). * Decide where to set up (initialise) a variable at the start of a program. * Update a variable with a user input. * Use an event in a program to update a variable. * Use a variable in a conditional statement to control the program's flow. * Use the same variable in more than one location in a program.</p>



	<p><b>Key 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, oneway, two-way, one-to-one, one-to-many.</p>	<p><b>Key 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.</p>	<p><b>Key vocabulary</b> variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare</p>	<p><b>Key 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.</p>	<p><b>Key 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.</p>	<p><b>Key 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.</p>
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<p>Year 6 Transition Period</p>	<p><b>Transition Unit</b></p>	
	<p>7. Using the microbit for primary to secondary transition</p>	
	<p><b>Core knowledge</b>                  * A variable is a changeable placeholder for a single number or word in a computer's memory (like a score or a time).                  * We use special 'true' or 'false' words (called Boolean variables) to help the program know what state it's in (like Game On is true or false).                  * Selection is a way for a program to make choices using an 'if...else' block, which helps the code branch (go different ways).                  * Iteration is the fancy word for making a block of code repeat (like a FOR loop).                  * A count-controlled loop is an iteration that repeats a set number of times (like a 3-2-1 countdown).                  * A function is a useful block of code that we name once and can reuse over and over again, making the program neater.</p>	
<p><b>Key concept/skills</b>                  * Create an algorithm for a sports counter.</p>		



	<ul style="list-style-type: none"> <li>* Code, run, and evaluate a micro:bit program designed to count activities.</li> <li>* Evaluate the effectiveness and limitations of the micro:bit's LED display when used as a timer.</li> <li>* Modify and debug an existing program using true/false statements and an 'if...else' command.</li> <li>* Create a program that combines a micro:bit counter and a timer to indicate activity completion.</li> <li>* Compare and utilise different forms of input on the micro:bit (e.g., buttons, accelerometer).</li> <li>* Modify a program by introducing count-controlled iteration (FOR loops) to improve efficiency.</li> <li>* Create a countdown program using count-controlled iteration.</li> <li>* Modify a program to capture and visually represent data (e.g., using a bar graph).</li> <li>* Create a program that gathers data to measure a physical action, such as the strength of a throw.</li> </ul>
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KSI Year A (2026-27)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	1. Computing systems and networks – Technology around us	2. Creating media – Digital painting	3. Programming A – Moving a robot	4. Data and information – Grouping data	5. Creating media – Digital writing	6. Programming B - Programming animations
	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Technology is anything that can help us.</li> <li>* I can identify and name examples of technology.</li> <li>* I can explain how different types of technology help us in our lives.</li> <li>* A computer is an example of technology.</li> <li>* Some technology can</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Different freehand tools on the computer do different things.</li> <li>* Computers can be used to create art.</li> <li>* A tool can be changed (adjusted) to better suit what I need.</li> <li>* I need to think about (consider) how my choices affect the picture.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Commands are specific words or actions that a robot or computer can follow.</li> <li>* A program is a full set of instructions (or commands) that a computer or robot can run.</li> <li>* We must plan and give all the instructions to the</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>* Objects can be counted.</li> <li>* All objects have properties (features) that we can describe.</li> <li>* Objects can be grouped by similarities; this is called an attribute.</li> <li>* An attribute is a feature we can use to sort things.</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>*</li> </ul>	<p><b>Core knowledge</b></p> <ul style="list-style-type: none"> <li>*</li> </ul>



<p>be used in different ways to do different things.                  * We have to make choices about how we use technology.                  * Rules are needed when we use technology to keep us safe and help us learn.</p>	<p>* Painting on a computer is different from painting with real brushes.</p>	<p>computer or robot before it starts to follow them.                  * Every command has a specific job that it will do.</p>	<p>* Information can be presented.                  * Information can be presented in different ways (like a chart or a list).</p>		
<p><b>Key concept/skills</b>                  * Identify and name the main parts of a computer (like the screen and keyboard).                  * Choose the best piece of technology to complete a specific job.                  * Use a mouse in different ways (e.g., clicking and dragging).                  * Use a keyboard to type words and sentences.                  * Use the keyboard to change (edit) the text I have written.                  * Show others how to use technology safely.</p>	<p><b>Key concept/skills</b>                  * Create a picture using freehand drawing tools.                  * Use shape and line tools when I need to be exact.                  * Use different paint colours.                  * Use the fill tool to quickly colour a whole area (an enclosed area).                  * Use the undo button to fix a mistake.                  * Combine different tools to make a finished piece of art.                  * Choose the right tool for the job.</p>	<p><b>Key concept/skills</b>                  * List all the different commands that can be used on a device.                  * Choose the right command to achieve a specific goal.                  * Run a single command on a floor robot.                  * Build a sequence of commands step-by-step.                  * Combine commands together to make a full program.                  * Run the completed program on a device.</p>	<p><b>Key concept/skills</b>                  * Identify some attributes of an object.                  * Collect simple data. Show that collected data can be counted.                  * Describe the properties of an object.                  * Choose an attribute (like colour or size) to group objects by.                  * Group objects to help answer questions.                  * Describe a whole group of objects based on what they have in common</p>	<p><b>Key concept/skills</b>                  *</p>	<p><b>Key concept/skills</b>                  *</p>
<p><b>Key vocabulary</b>                  technology, computer, mouse, trackpad,</p>	<p><b>Key vocabulary</b>                  paint program, tool, paintbrush, erase, fill,</p>	<p><b>Key vocabulary</b>                  Bee-Bot, forwards, backwards, turn, clear,</p>	<p><b>Key vocabulary</b>                  object, label, group, search, image, property,</p>	<p><b>Key vocabulary</b>                  word processor, keyboard, keys, letters,</p>	<p><b>Key vocabulary</b>                  ScratchJr, command, sprite, compare,</p>



	<i>keyboard, screen, double-click, typing.</i>	<i>undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers</i>	<i>go, commands, instructions, directions, left, right, route, plan, algorithm, program.</i>	<i>colour, size, shape, value, data set, more, less, most, fewest, least, the same</i>	<i>type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.</i>	<i>programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.</i>
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