

# Computing Curriculum Map

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>					
<b>Year 1</b>	<b>Computing Systems and Networks: Technology Around Us</b>	<b>Creating Media: Digital Painting</b>	<b>Programming: Moving a Robot</b>	<b>Data and Information: Grouping Data</b>	<b>Creating Media: Digital Writing</b>	<b>Programming: Programming Animations</b>
<b>Knowledge</b>	Identify technology. Know main parts of a computer, be able to switch it on and log in. Use a mouse in different ways. Use a keyboard to type on a computer and to edit text. Know rules for using technology responsibly	Know what different freehand tools do. Use the shape and line tools. Make careful choices when painting a digital picture. Explain why I chose the tools I used. Use a computer on my own to paint a picture. Compare painting a picture on a computer and on paper.	Know what a given command will do. Follow and give directions. Combine forwards and backwards commands to make a sequence. Combine four direction commands to make sequences. Plan a simple program. Find more than one solution to a problem.	Label objects. Know that objects can be counted. Describe objects in different ways. Count objects with the same properties. Compare groups of objects. Answer questions about groups of objects.	Use a computer to write. Add and remove text on a computer. Identify that the look of text can be changed on a computer. Make careful choices when changing text. Explain why I used the tools that I chose. Compare typing on a computer to writing on paper.	Choose a command for a given purpose. Know that a series of commands can be joined together. Identify the effect of changing a value. Know that each sprite has its own instructions. Design the parts of a project. Use my algorithm to create a program.
<b>Curriculum Links</b>	Year 2 Computing: IT Around Us	Year 1 Computing: Digital Writing	Year 2 Computing: Programming animations	Year 2 Maths: Statistics Year 2 Computing: Pictograms	Year 1 Computing: Digital Painting Year 2 Computing: Digital Photography	Year 1 Computing: Moving a Robot Year 2 Computing: Robot Algorithms

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Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>• create and debug simple programs</li> <li>• use logical reasoning to predict the behaviour of simple programs</li> <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>• recognise common uses of information technology beyond school</li> <li>• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>					
	<b>Computing Systems and Networks: IT Around Us</b>	<b>Creating Media: Digital Photography</b>	<b>Programming: Robot Algorithms</b>	<b>Data and Information: Pictograms</b>	<b>Creating Music: Digital Music</b>	<b>Programming: Programming Quizzes</b>
<b>Knowledge</b>	<p>Know the uses and features of information technology, in and beyond school.</p> <p>Explain how information technology helps us.</p> <p>Explain how to use information technology safely.</p> <p>Know that choices are made when using information technology.</p>	<p>Use a digital device to take a photograph.</p> <p>Make choices when taking a photograph.</p> <p>Describe what makes a good photograph.</p> <p>Know how photographs can be improved.</p> <p>Use tools to change an image.</p>	<p>Describe a series of instructions as a sequence.</p> <p>Know what happens when we change the order of instructions. Use logical reasoning to predict the outcome of a program.</p> <p>Know that programming projects can have code and artwork.</p> <p>Design an algorithm. Create and debug a program that I have written.</p>	<p>Know that we can count and compare objects using tally charts.</p> <p>Know that objects can be represented as pictures.</p> <p>Create a pictogram.</p> <p>Select objects by attribute and make comparisons.</p> <p>Know that we can present information using a computer.</p>	<p>Experiment with sound using a computer.</p> <p>Use a computer to create a musical pattern.</p> <p>Create music for a purpose.</p> <p>Review and refine our computer work.</p>	<p>Know that a sequence of commands has a start and an outcome.</p> <p>Create a program using a given design.</p> <p>Change a given design.</p> <p>Create a program using own design.</p> <p>Decide how own project can be improved.</p>
<b>Curriculum Links</b>	<p>Year 1 Computing: Technology Around Us</p> <p>Year 3 Computing: Connecting Computers</p>	<p>Year 1 Computing: Digital Writing</p> <p>Year 2 Computing: Digital Music</p>	<p>Year 1 Computing: Robot Algorithms Year</p> <p>Year 2: Programming Quizzes</p>	<p>Year 1 Computing: Grouping Data Year</p> <p>3 Computing: Branching Databases</p> <p>Year 3 Maths: Statistics</p>	<p>Year 2 Computing: Digital Photography</p> <p>Year 3 Computing: Stop-frame Animations</p>	<p>Year 2 Computing: Robot Algorithms</p> <p>Year 3 Computing: Sequencing Sound</p>

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Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>					
	<b>Computing Systems and Networks: Connecting Computers</b>	<b>Creating Media: Stop-frame Animations</b>	<b>Programming: Sequencing Sound</b>	<b>Data and Information: Branching Databases</b>	<b>Creating Media: Desktop Publishing</b>	<b>Programming: Events and Actions in Programs</b>
<b>Knowledge</b>	<p>Know how digital devices function. Identify input and output devices. Recognise how digital devices can change the way we work. Know how a computer network can be used to share information.</p>	<p>Know that animation is a sequence of drawings or photographs. Relate animated movement with a sequence of images. Plan an animation. Identify the need to work consistently and carefully. Review and improve an animation.</p>	<p>Explore a new programming environment. Identify that commands have an outcome. Know that a program has a start. Know that a sequence of commands can have an order.</p>	<p>Create questions with yes/no answers. Identify the attributes needed to collect data about an object. Create a branching database. Know why it is helpful for a database to be well structured. Plan the structure of a branching database.</p>	<p>Know how text and images convey information. Know that text and layout can be edited. Choose appropriate page settings. Add content to a desktop publishing publication.</p>	<p>Know how a sprite moves in an existing project. Create a program to move a sprite in four directions. Adapt a program to a new context. Develop program by adding features. Identify and fix bugs in a program.</p>

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	Explore how digital devices can be connected. Know the physical components of a network.	Evaluate the impact of adding other media to an animation.	Change the appearance of my project. Create a project from a task description.	Independently create an identification tool.	Consider how different layouts can suit different purposes. Consider the benefits of desktop publishing.	Design and create a maze-based challenge.
<b>Curriculum Links</b>	Year 2 Computing: IT Around Us Year 4 Computing: The Internet	Year 2 Computing: Digital Music Year 3 Computing: Desktop Publishing	Year 2 Computing: Programming Quizzes: Year 3 Computing: Events and Actions in Programs	Year 2 Computing: Pictograms Year 4: Data Logging	Year 3 Computing: Stop-Frame Animations. Year 4: Audio Productions	Year 3 Computing: Sequencing Sound Year 4: Repetition in Shapes

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Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>					
	<b>Computing Systems and Networks: The Internet</b>	<b>Creating Media: Audio Production</b>	<b>Programming: Repetition in Shapes</b>	<b>Data and Information: Data Logging</b>	<b>Creating Media: Photo Editing</b>	<b>Programming: Repetition in Games</b>
<b>Knowledge</b>	<p>Know how networks physically connect to other networks.</p> <p>Know how networked devices make up the internet.</p> <p>Know how websites can be shared via the World Wide Web (WWW)</p> <p>Know how content can be added and accessed</p>	<p>Know that sound can be recorded.</p> <p>Know that audio recordings can be edited.</p> <p>Know the different parts of creating a podcast project.</p> <p>Apply audio editing skills independently.</p>	<p>Know that accuracy in programming is important.</p> <p>Create a program in a text-based language.</p> <p>Know what 'repeat' means.</p> <p>Modify a count-controlled loop to produce a given outcome.</p>	<p>Know that data gathered over time can be used to answer questions.</p> <p>Use a digital device to collect data automatically.</p> <p>Know that a data logger collects 'data points' from sensors over time.</p>	<p>Know that the composition of digital images can be changed.</p> <p>Know that colours can be changed in digital images.</p> <p>Know how cloning can be used in photo editing.</p> <p>Know that images can be combined.</p>	<p>Develop the use of count-controlled loops in a different programming environment.</p> <p>Know that in programming there are infinite loops and count controlled loops.</p> <p>Develop a design that includes two or more</p>

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	<p>on the World Wide Web (WWW).          Know how the content of the WWW is created by people.          Evaluate the consequences of unreliable content.</p>	<p>Combine audio to enhance my podcast project.          Evaluate the effective use of audio.</p>	<p>Decompose a task into small steps.          Create a program that uses count-controlled loops to produce a given outcome.</p>	<p>Know how a computer can help us analyse data.          Know the data needed to answer questions.          Use data from sensors to answer questions.</p>	<p>Combine images for a purpose.          Evaluate how changes can improve an image.</p>	<p>loops which run at the same time.          Modify an infinite loop in a given program.          Design and create a project that includes repetition.</p>
<b>Curriculum Links</b>	<p>Year 3 Computing: Connecting Computers          Year 5 Computing: Systems and Searching</p>	<p>Year 3 Computing: Desktop Publishing          Year 4 Computing: Photo Editing</p>	<p>Year 3 Computing: Events and Actions in Programs          Year 4 Computing: Repetition in Games</p>	<p>Year 4 Science: Electricity          Year 4 Science: Sound          Year 3 Computing: Branching Databases          Year 5 Computing: Flat-file Databases</p>	<p>Year 4 Computing: Audio Production          Year 5 Computing: Video Production</p>	<p>Year 4 Computing: Repetition in Shapes          Year 5 Computing: Selection in Physical Computing</p>

# Computing Curriculum Map

Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>					
	<b>Computing Systems and Networks: Systems and Searching</b>	<b>Creating Media: Video Production</b>	<b>Programming: Selection in Physical Computing</b>	<b>Data and Information: Flat-file Databases</b>	<b>Creating Media: Introduction to Vector Graphics</b>	<b>Programming: Selection in Quizzes</b>
<b>Knowledge</b>	<p>Know that computers can be connected to form systems.</p> <p>Know the role of computer systems in our lives.</p> <p>Experiment with search engines.</p> <p>Know how search engines select results.</p> <p>Know how search results are ranked.</p>	<p>Know what makes a video effective.</p> <p>Identify digital devices that can record video.</p> <p>Capture video using a range of techniques.</p> <p>Create a storyboard.</p> <p>Know that video can be improved through reshooting and editing.</p> <p>Consider the impact of the choices made when</p>	<p>Control a simple circuit connected to a computer.</p> <p>Write a program that includes count-controlled loops.</p> <p>Know that a loop can stop when a condition is met.</p> <p>Know that a loop can be used to repeatedly check whether a</p>	<p>Use a form to record information.</p> <p>Compare paper and computer-based databases.</p> <p>Outline how you can answer questions by grouping and then sorting data.</p> <p>Know that tools can be used to select specific data.</p>	<p>Know that drawing tools can be used to produce different outcomes.</p> <p>Create a vector drawing by combining shapes.</p> <p>Use tools to achieve a desired effect.</p> <p>Know that vector drawings consist of layers.</p>	<p>Know how selection is used in computer programs.</p> <p>Relate that a conditional statement connects a condition to an outcome.</p> <p>Know how selection directs the flow of a program.</p> <p>Design a program which uses selection.</p>

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	Know why the order of results is important, and to whom.	making and sharing a video.	condition has been met. Design a physical project that includes selection. Create a program that controls a physical computing project.	Know that computer programs can be used to compare data visually. Use a real-world database to answer questions.	Group objects to make them easier to work with. Apply knowledge about vector drawings.	-To create a program which uses selection -To evaluate my program.
<b>Curriculum Links</b>	Year 4 Computing: The Internet Year 6 Computing: Communication and Collaboration	Year 4 Computing: Photo Editing	Year 4 Computing: Repetition in Games Year 5 Computing: Selection in Quizzes	Year 4 Computing: Data Logging Year 6 Computing: Spreadsheets Year 4 Science: Electricity and Sound	Year 5 Computing: Video Production Year 6 Computing: Web Page Creation	Year 5 Computing: Selection in Physical Computing Year 6 Computing: Variables in Games

# Computing Curriculum Map

Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>					
	<b>Computing Systems and Networks: Communication and Collaboration</b>	<b>Creating Media: Web Page Creation</b>	<b>Programming: Variables in Games</b>	<b>Data and Information: Spreadsheets</b>	<b>Creating Media: 3D Modelling</b>	<b>Programming: Sensing Movement</b>
<b>Knowledge</b>	<p>Know the importance of internet addresses. Know how data is transferred across the internet.</p> <p>Know how sharing information online can help people to work together.</p>	<p>Review an existing website and consider its structure.</p> <p>Plan the features of a web page.</p> <p>Consider the ownership and use of images (copyright).</p> <p>Recognise the need to preview pages.</p>	<p>Define a 'variable' as something that is changeable.</p> <p>Know why a variable is used in a program.</p> <p>Choose how to improve a game by using variables.</p> <p>Design a project that builds on a given example.</p>	<p>Create a data set in a spreadsheet.</p> <p>Build a data set in a spreadsheet.</p> <p>Know that formulas can be used to produce calculated data.</p> <p>Apply formulas to data.</p> <p>Create a spreadsheet to plan an event.</p>	<p>Know that you can work in three dimensions on a computer.</p> <p>Know that digital 3D objects can be modified.</p> <p>Know that objects can be combined in a 3D model.</p>	<p>Create a program to run on a controllable device.</p> <p>Know that selection can control the flow of a program.</p> <p>Update a variable with a user input.</p> <p>Use a conditional statement to compare a variable to a value.</p>

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	Evaluate different ways of working together online. Know how we communicate using technology. Evaluate different methods of online communication.	Outline the need for a navigation path. Know the implications of linking to content owned by other people.	Use my design to create a project. Evaluate my project.	Choose suitable ways to present data.	Create a 3D model for a given purpose. Plan my own 3D model. Create my own digital 3D model.	Design a project that uses inputs and outputs on a controllable device. Develop a program to use inputs and outputs on a controllable device.
<b>Curriculum Links</b>	Year 5 Computing: Systems and Searching	Year 5 Computing: Introduction to Vector Graphics	Year 5 Computing: Selection in Quizzes	Year 5 Computing: Flat-file Databases	Year 6 Computing: Web Page Creation	Year 6 Computing: Variables in Games