

Computing Overview

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p>Computer systems and networks</p> <p>To log into a computer and access a website.</p> <p>To develop mouse skills.</p> <p>To use mouse skills to draw and edit shapes.</p> <p>To draw a scene from a story using digital tools.</p> <p>To create a self-portrait using digital techniques.</p> <p>Online Safety</p>	<p>Programming</p> <p>To understand what an algorithm is.</p> <p>To follow instructions precisely to carry out an action.</p> <p>To understand that computers and devices around us use inputs and outputs.</p> <p>To understand and be able to explain what decomposition is.</p> <p>To know how to debug an algorithm.</p>	<p>Programming</p> <p>To explore a new device.</p> <p>To create a demonstration video.</p> <p>To plan and follow a set of instructions precisely.</p> <p>To program a device.</p> <p>To create a program.</p> <p>Online Safety</p>	<p>Data handling</p> <p>To represent data in different ways.</p> <p>To use technology to represent data in different ways.</p> <p>To collect and record data.</p> <p>To sort data.</p> <p>To design an invention to gather data.</p> <p>Online Safety</p>	<p>Creating media</p> <p>To understand and create a sequence of pictures.</p> <p>To take clear photos.</p> <p>To edit photos.</p> <p>To search for and import images.</p> <p>To create a photo collage.</p> <p>Online Safety</p>	<p>Skills Showcase</p> <p>To recognise that digital content can be represented in many forms.</p> <p>To design a rocket.</p> <p>To sequence a set of instructions.</p> <p>To build a rocket.</p> <p>To add data to a table.</p> <p>Online Safety</p>

Year 2	Information Technology around us	Digital Photography	Robot Algorithms	Pictograms	Making Music	An Introduction to Quizzes
	<p>To recognise the uses and features of information technology</p> <p>To identify the uses of information technology in the school</p> <p>To identify information technology beyond school</p> <p>To explain how information technology helps us</p> <p>To explain how to use information technology safely</p> <p>To recognise that choices are made when using information technology</p>	<p>To use a digital device to take a photograph</p> <p>To make choices when taking a photograph</p> <p>To describe what makes a good photograph</p> <p>To decide how photographs can be improved</p> <p>To use tools to change an image</p> <p>To recognise that photos can be changed</p>	<p>To describe a series of instructions as a sequence</p> <p>To explain what happens when we change the order of instructions</p> <p>To use logical reasoning to predict the outcome of a program</p> <p>To explain that programming projects can have code and artwork</p> <p>To design an algorithm</p> <p>To create and debug a program that I have written</p>	<p>To recognise that we can count and compare objects using tally charts</p> <p>To recognise that objects can be represented as pictures</p> <p>To create a pictogram</p> <p>To select objects by attribute and make comparisons</p> <p>To recognise that people can be described by attributes</p> <p>To explain that we can present information using a computer</p>	<p>To say how music can make us feel</p> <p>To identify that there are patterns in music</p> <p>To experiment with sound using a computer</p> <p>To use a computer to create a musical pattern</p> <p>To create music for a purpose</p> <p>To review and refine our computer work</p>	<p>To explain that a sequence of commands has a start</p> <p>To explain that a sequence of commands has an outcome</p> <p>To create a program using a given design</p> <p>To change a given design</p> <p>To create a program using my own design</p> <p>To decide how my project can be improved</p>
	Online Safety					

<p>Year 3</p>	<p>Connecting Computers</p> <p>To explain how digital devices function</p> <p>To identify input and output devices</p> <p>To recognise how digital devices can change the way that we work</p> <p>To explain how a computer network can be used to share information</p> <p>To explore how digital devices can be connected</p> <p>To recognise the physical components of a network</p> <p>Online Safety</p>	<p>Stop-frame Animation</p> <p>To explain that animation is a sequence of drawings or photographs</p> <p>To relate animated movement with a sequence of images</p> <p>To plan an animation</p> <p>To identify the need to work consistently and carefully</p> <p>To review and improve an animation</p> <p>To evaluate the impact of adding other media to an animation</p>	<p>Sequencing Sounds (Programming A)</p> <p>To explore a new programming environment</p> <p>To identify that commands have an outcome</p> <p>To explain that a program has a start</p> <p>To recognise that a sequence of commands can have an order</p> <p>To change the appearance of my project</p> <p>To create a project from a task description</p>	<p>Desktop Publishing</p> <p>To recognise how text and images convey information</p> <p>To recognise that text and layout can be edited</p> <p>To choose appropriate page settings</p> <p>To add content to a desktop publishing publication</p> <p>To consider how different layouts can suit different purposes</p> <p>To consider the benefits of desktop publishing</p>	<p>Branching Databases</p> <p>To create questions with yes/no answers</p> <p>To identify the attributes needed to collect data about an object</p> <p>To create a branching database</p> <p>To explain why it is helpful for a database to be well structured</p> <p>To plan the structure of a branching database</p> <p>To independently create an identification tool</p>	<p>Events and actions in (Programming B)</p> <p>To explain how a sprite moves in an existing project</p> <p>To create a program to move a sprite in four directions</p> <p>To adapt a program to a new context</p> <p>To develop my program by adding features</p> <p>To identify and fix bugs in a program</p> <p>To design and create a maze-based challenge</p>
<p>Year 4</p>	<p>The Internet</p> <p>To describe how networks physically connect to other networks</p> <p>To recognise how networked devices make up the internet</p>	<p>Repetition in shapes (Programming A)</p> <p>To identify that accuracy in programming is important</p>	<p>Photo Editing</p> <p>To explain that the composition of digital images can be changed</p> <p>To explain that colours can be changed in digital images</p>	<p>Data Loggers</p> <p>To explain that data gathered over time can be used to answer questions</p>	<p>AI</p> <p>To understand the meaning of AI</p> <p>To recognise the benefits of AI</p>	<p>Repetition in games (Programming B)</p> <p>To develop the use of count-controlled loops in a different programming environment</p>

	<p>To outline how websites can be shared via the World Wide Web (WWW)</p> <p>To describe how content can be added and accessed on the World Wide Web (WWW)</p> <p>To recognise how the content of the WWW is created by people</p> <p>To evaluate the consequences of unreliable content</p> <p>Online Safety</p>	<p>To create a program in a text-based language</p> <p>To explain what 'repeat' means</p> <p>To modify a count-controlled loop to produce a given outcome</p> <p>To decompose a task into small steps</p> <p>To create a program that uses count-controlled loops to produce a given outcome</p>	<p>To explain how cloning can be used in photo editing</p> <p>To explain that images can be combined</p> <p>To combine images for a purpose</p> <p>To evaluate how changes can improve an image</p>	<p>To use a digital device to collect data automatically</p> <p>To explain that a data logger collects 'data points' from sensors over time</p> <p>To recognise how a computer can help us analyse data</p> <p>To identify the data needed to answer questions</p> <p>To use data from sensors to answer questions</p>	<p>To understand the future of AI</p> <p>To understand how AI works</p>	<p>To explain that in programming there are infinite loops and count-controlled loops</p> <p>To develop a design that includes two or more loops which run at the same time</p> <p>To modify an infinite loop in a given program</p> <p>To design a project that includes repetition</p> <p>To create a project that includes repetition</p>
Year 5	<p>Selection in Computing (Programming A)</p> <p>To control a simple circuit connected to a computer</p> <p>To write a program that includes count-controlled loops</p>	<p>Vector Drawing</p> <p>To identify that drawing tools can be used to produce different outcomes</p> <p>To create a vector drawing by combining shapes</p>	<p>Video Production</p> <p>To explain what makes a video effective</p> <p>To use a digital device to record video</p> <p>To capture video using a range of techniques</p> <p>To create a storyboard</p>	<p>Systems and Searching</p> <p>To explain that computers can be connected together to form systems</p> <p>To recognise the role of computer systems in our lives</p>	<p>Selection in Quizzes (Programming B)</p> <p>To explain how selection is used in computer programs</p> <p>To relate that a conditional statement connects a condition to an outcome</p>	<p>Data and Information Flat-file databases</p> <p>To use a form to record information</p> <p>To compare paper and computer-based databases</p> <p>To outline how you can answer questions by</p>

	<p>To explain that a loop can stop when a condition is met</p> <p>To explain that a loop can be used to repeatedly check whether a condition has been met</p> <p>To design a physical project that includes selection</p> <p>To create a program that controls a physical computing project</p>	<p>To use tools to achieve a desired effect</p> <p>To recognise that vector drawings consist of layers</p> <p>To group objects to make them easier to work with</p> <p>To apply what I have learned about vector drawings</p>	<p>To identify that video can be improved through reshooting and editing</p> <p>To consider the impact of the choices made when making and sharing a video</p>	<p>To identify how to use a search engine</p> <p>To describe how search engines select results</p> <p>To explain how search results are ranked</p> <p>To recognise why the order of results is important, and to whom</p> <p>Online Safety</p>	<p>To explain how selection directs the flow of a program</p> <p>To design a program that uses selection</p> <p>To create a program that uses selection</p> <p>To evaluate my program</p>	<p>grouping and then sorting data</p> <p>To explain that tools can be used to select specific data</p> <p>To explain that computer programs can be used to compare data visually</p> <p>To use a real-world database to answer questions</p>
Year 6	<p>Variables in Games</p> <p>To define a 'variable' as something that is changeable</p> <p>To explain why a variable is used in a program</p> <p>To choose how to improve a game by using variables</p>	<p>Web Page Creation</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>Communication and Collaboration</p> <p>To explain the importance of internet addresses</p> <p>To recognise how data is transferred across the internet</p> <p>To explain how sharing information online can help people to work together</p>	<p>Sensing - Micro:bits</p> <p>To create a program to run on a controllable device</p> <p>To explain that selection can control the flow of a program</p> <p>To update a variable with a user input</p>	<p>3D Modelling</p> <p>To recognise that you can work in three dimensions on a computer</p> <p>To identify that digital 3D objects can be modified</p> <p>To recognise that objects can be combined in a 3D model</p>	<p>Introduction to Spreadsheets</p> <p>To create a data set in a spreadsheet</p> <p>To build a data set in a spreadsheet</p> <p>To explain that formulas can be used to produce calculated data</p>

	<p>To design a project that builds on a given example</p> <p>To use my design to create a project</p> <p>To evaluate my project</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> <p>Online Safety</p>	<p>To evaluate different ways of working together online</p> <p>To recognise how we communicate using technology</p> <p>To evaluate different methods of online communication</p> <p>Online Safety</p>	<p>To use an conditional statement to compare a variable to a value</p> <p>To design a project that uses inputs and outputs on a controllable device</p> <p>To develop a program to use inputs and outputs on a controllable device</p>	<p>To create a 3D model for a given purpose</p> <p>To plan my own 3D model</p> <p>To create my own digital 3D model</p>	<p>To apply formulas to data</p> <p>To create a spreadsheet to plan an event</p> <p>To choose suitable ways to present data</p>
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