

	COMPUTING SYSTEMS & NETWORKS	CREATING MEDIA	DATA & INFORMATION	PROGRAMMING
YEAR 1	<p><b>Technology around us</b></p> <ul style="list-style-type: none"> <li>To identify technology</li> <li>To identify a computer and its main parts</li> <li>To use a mouse in different ways</li> <li>To use a keyboard to type</li> <li>To use the keyboard to edit text</li> <li>To create rules for using technology responsibly</li> </ul>	<p><b>Digital painting</b></p> <ul style="list-style-type: none"> <li>To describe what different freehand tools do</li> <li>To use the shape tool and the line tools</li> <li>To make careful choices when painting a digital picture</li> <li>To explain why I chose the tools I used</li> <li>To use a computer on my own to paint a picture</li> <li>To compare painting a picture on a computer and on paper</li> </ul> <p><b>Digital writing</b></p> <ul style="list-style-type: none"> <li>To use a computer to write</li> <li>To add and remove text on a computer</li> <li>To identify that the look of text can be changed on a computer</li> <li>To make careful choices when changing text</li> <li>To explain why I used the tools that I chose</li> <li>To compare writing on a computer with writing on paper</li> </ul>	<p><b>Grouping data</b></p> <ul style="list-style-type: none"> <li>To label objects</li> <li>To identify that objects can be counted</li> <li>To describe objects in different ways</li> <li>To count objects with the same properties</li> <li>To compare groups of objects</li> <li>To answer questions about groups of objects</li> </ul>	<p><b>Moving a robot</b></p> <ul style="list-style-type: none"> <li>To explain what a given command will do</li> <li>To act out a given word</li> <li>To combine forwards and backwards commands to make a sequence</li> <li>To combine four direction commands to make sequences</li> <li>To plan a simple program</li> <li>To find more than one solution to a problem</li> </ul> <p><b>Introduction to animation</b></p> <ul style="list-style-type: none"> <li>To choose a command for a given purpose</li> <li>To show that a series of commands can be joined together</li> <li>To identify the effect of changing a value</li> <li>To explain that each sprite has its own instructions</li> <li>To design the parts of a project</li> <li>To use my algorithm to create a program</li> </ul>
YEAR 2	<p><b>Information technology around us</b></p> <ul style="list-style-type: none"> <li>To recognise the uses and features of information technology</li> <li>To identify information technology in the home</li> <li>To identify information technology beyond school</li> <li>To explain how information technology benefits us</li> <li>To show how to use information technology safely</li> <li>To recognise that choices are made when using information technology</li> </ul>	<p><b>Digital photography</b></p> <ul style="list-style-type: none"> <li>To know what devices can be used to take photographs</li> <li>To use a digital device to take a photograph</li> <li>To describe what makes a good photograph</li> <li>To decide how photographs can be improved</li> <li>To use tools to change an image</li> <li>To recognise that images can be changed</li> </ul> <p><b>Making music</b></p> <ul style="list-style-type: none"> <li>To say how music can make us feel</li> <li>To identify that there are patterns in music</li> <li>To describe how music can be used in different ways</li> <li>To show how music is made from a series of notes</li> <li>To create music for a purpose</li> <li>To review and refine our computer work</li> </ul>	<p><b>Pictograms</b></p> <ul style="list-style-type: none"> <li>To recognise that we can count and compare objects using tally charts</li> <li>To recognise that objects can be represented as pictures</li> <li>To create a pictogram</li> <li>To select objects by attribute and make comparisons</li> <li>To recognise that people can be described by attributes</li> <li>To explain that we can present information using a computer</li> </ul>	<p><b>Robot algorithms</b></p> <ul style="list-style-type: none"> <li>To describe a series of instructions as a sequence</li> <li>To explain what happens when we change the order of instructions</li> <li>To use logical reasoning to predict the outcome of a program (series of commands)</li> <li>To explain that programming projects can have code and artwork</li> <li>To design an algorithm</li> <li>To create and debug a program that I have written</li> </ul> <p><b>Introduction to quizzes</b></p> <ul style="list-style-type: none"> <li>To explain that a sequence of commands has a start</li> <li>To explain that a sequence of commands has an outcome</li> <li>To create a program using a given design</li> <li>To change a given design</li> <li>To create a program using my own design</li> <li>To decide how my project can be improved</li> </ul>
YEAR 3	<p><b>Connecting computers</b></p> <ul style="list-style-type: none"> <li>To explain how digital devices function</li> <li>To identify input and output devices</li> <li>To recognise how digital devices can change the way we work</li> <li>To explain how a computer network can be used to share information</li> <li>To explore how digital devices can be connected</li> <li>To recognise the physical components of a network</li> </ul>	<p><b>Stop-frame animation</b></p> <ul style="list-style-type: none"> <li>To explain that animation is a sequence of drawings or photographs</li> <li>To relate animated movement with a sequence of images</li> <li>To plan an animation</li> <li>To identify the need to work consistently and carefully</li> <li>To review and improve an animation</li> <li>To evaluate the impact of adding other media to an animation</li> </ul> <p><b>Desktop publishing</b></p> <ul style="list-style-type: none"> <li>To recognise how text and images convey information</li> <li>To recognise that text and layout can be edited</li> <li>To choose appropriate page settings</li> <li>To add content to a desktop publishing publication</li> <li>To consider how different layouts can suit different purposes</li> <li>To consider the benefits of desktop publishing</li> </ul>	<p><b>Branching databases</b></p> <ul style="list-style-type: none"> <li>To create questions with yes/no answers</li> <li>To identify the object attributes needed to collect relevant data</li> <li>To create a branching database</li> <li>To identify objects using a branching database</li> <li>To explain why it is helpful for a database to be well structured</li> <li>To compare the information shown in a pictogram with a branching database</li> </ul>	<p><b>Sequence in music</b></p> <ul style="list-style-type: none"> <li>To explore a new programming environment</li> <li>To identify that each sprite is controlled by the commands I choose</li> <li>To explain that a program has a start</li> <li>To recognise that a sequence of commands can have an order</li> <li>To change the appearance of my project</li> <li>To create a project from a task description</li> </ul> <p><b>Events and actions</b></p> <ul style="list-style-type: none"> <li>To explain how a sprite moves in an existing project</li> <li>To create a program to move a sprite in four directions</li> <li>To adapt a program to a new context</li> <li>To develop my program by adding features</li> <li>To identify and fix bugs in a program</li> <li>To design and create a maze-based challenge</li> </ul>
YEAR 4	<p><b>The Internet</b></p> <ul style="list-style-type: none"> <li>To describe how networks physically connect to other networks</li> <li>To recognise how networked devices make up the internet</li> <li>To outline how websites can be shared via the World Wide Web</li> <li>To describe how content can be added and accessed on the World Wide Web</li> <li>To recognise how the content of the WWW is created by people</li> <li>To evaluate the consequences of unreliable content</li> </ul>	<p><b>Audio editing</b></p> <ul style="list-style-type: none"> <li>To identify that sound can be digitally recorded</li> <li>To use a digital device to record sound</li> <li>To explain that a digital recording is stored as a file</li> <li>To explain that audio can be changed through editing</li> <li>To show that different types of audio can be combined and played together</li> <li>To evaluate editing choices made</li> </ul> <p><b>Photo editing</b></p> <ul style="list-style-type: none"> <li>To explain that digital images can be changed</li> <li>To change the composition of an image</li> <li>To describe how images can be changed for different uses</li> <li>To make good choices when selecting different tools</li> <li>To recognise that not all images are real</li> <li>To evaluate how changes can improve an image</li> </ul>	<p><b>Data logging</b></p> <ul style="list-style-type: none"> <li>To explain that data gathered over time can be used to answer questions</li> <li>To use a digital device to collect data automatically</li> <li>To explain that a data logger collects 'data points' from sensors over time</li> <li>To use data collected over a long duration to find information</li> <li>To identify the data needed to answer questions</li> <li>To use collected data to answer questions</li> </ul>	<p><b>Repetition in shapes</b></p> <ul style="list-style-type: none"> <li>To identify that accuracy in programming is important</li> <li>To create a program in a text-based language</li> <li>To explain what 'repeat' means</li> <li>To modify a count-controlled loop to produce a given outcome</li> <li>To decompose a program into parts</li> <li>To create a program that uses count-controlled loops to produce a given outcome</li> </ul> <p><b>Repetition in games</b></p> <ul style="list-style-type: none"> <li>To develop the use of count-controlled loops in a different programming environment</li> <li>To explain that in programming there are infinite loops and count controlled loops</li> <li>To develop a design which includes two or more loops which run at the same time</li> <li>To modify an infinite loop in a given program</li> <li>To design a project that includes repetition</li> <li>To create a project that includes repetition</li> </ul>
YEAR 5	<p><b>Sharing information</b></p> <ul style="list-style-type: none"> <li>To explain that computers can be connected together to form systems</li> <li>To recognise the role of computer systems in our lives</li> <li>To recognise how information is transferred over the internet</li> <li>To explain how sharing information online lets people in different places work together</li> <li>To contribute to a shared project online</li> <li>To evaluate different ways of working together online</li> </ul>	<p><b>Video editing</b></p> <ul style="list-style-type: none"> <li>To recognise video as moving pictures, which can include audio</li> <li>To identify digital devices that can record video</li> <li>To capture video using a digital device</li> <li>To recognise the features of an effective video</li> <li>To identify that video can be improved through reshooting and editing</li> <li>To consider the impact of the choices made when making and sharing a video</li> </ul> <p><b>Vector drawing</b></p> <ul style="list-style-type: none"> <li>To identify that drawing tools can be used to produce different outcomes</li> <li>To create a vector drawing by combining shapes</li> <li>To use tools to achieve a desired effect</li> <li>To recognise that vector drawings consist of layers</li> <li>To group objects to make them easier to work with</li> <li>To evaluate my vector drawing</li> </ul>	<p><b>Flat-file databases</b></p> <ul style="list-style-type: none"> <li>To use a form to record information</li> <li>To compare paper and computer-based databases</li> <li>To outline how grouping and then sorting data allows us to answer questions</li> <li>To explain that tools can be used to select specific data</li> <li>To explain that computer programs can be used to compare data visually</li> <li>To apply my knowledge of a database to ask and answer real-world questions</li> </ul>	<p><b>Selection in physical computing</b></p> <ul style="list-style-type: none"> <li>To control a simple circuit connected to a computer</li> <li>To write a program that includes count-controlled loops</li> <li>To explain that a loop can stop when a condition is met, eg number of times</li> <li>To conclude that a loop can be used to repeatedly check whether a condition has been met</li> <li>To design a physical project that includes selection</li> <li>To create a controllable system that includes selection</li> </ul> <p><b>Selection in games</b></p> <ul style="list-style-type: none"> <li>To explain how selection is used in computer programs</li> <li>To relate that a conditional statement connects a condition to an outcome</li> <li>To explain how selection directs the flow of a program</li> <li>To design a program which uses selection</li> <li>To create a program which uses selection</li> <li>To evaluate my program</li> </ul>
YEAR 6	<p><b>Communication</b></p> <ul style="list-style-type: none"> <li>To identify how to use a search engine</li> <li>To describe how search engines select results</li> <li>To describe how search engines select results</li> <li>To explain how search results are ranked</li> <li>To recognise why the order of results is important, and to whom</li> <li>To recognise how we communicate using technology</li> <li>To evaluate different methods of online communication</li> </ul>	<p><b>Web page creation</b></p> <ul style="list-style-type: none"> <li>To review an existing website and consider its structure</li> <li>To plan the features of a web page</li> <li>To consider the ownership and use of images (copyright)</li> <li>To recognise the need to preview pages</li> <li>To outline the need for a navigation path</li> <li>To recognise the implications of linking to content owned by other people</li> </ul> <p><b>3D modelling</b></p> <ul style="list-style-type: none"> <li>To use a computer to create and manipulate three-dimensional (3D) digital objects</li> <li>To compare working digitally with 2D and 3D graphics</li> <li>To construct a digital 3D model of a physical object</li> <li>To identify that physical objects can be broken down into a collection of 3D shapes</li> <li>To design a digital model by combining 3D objects</li> <li>To develop and improve a digital 3D model</li> </ul>	<p><b>Spreadsheets</b></p> <ul style="list-style-type: none"> <li>To identify questions which can be answered using data</li> <li>To explain that objects can be described using data</li> <li>To explain that formula can be used to produce calculated data</li> <li>To apply formulas to data, including duplicating</li> <li>To create a spreadsheet to plan an event</li> <li>To choose suitable ways to present data</li> </ul>	<p><b>Variables in games</b></p> <ul style="list-style-type: none"> <li>To define a 'variable' as something that is changeable</li> <li>To explain why a variable is used in a program</li> <li>To choose how to improve a game by using variables</li> <li>To design a project that builds on a given example</li> <li>To use my design to create a project</li> <li>To evaluate my project</li> </ul> <p><b>Sensing</b></p> <ul style="list-style-type: none"> <li>To create a program to run on a controllable device</li> <li>To explain that selection can control the flow of a program</li> <li>To update a variable with a user input</li> <li>To use an conditional statement to compare a variable to a value</li> <li>To design a project that uses inputs and outputs on a controllable device</li> <li>To develop a program to use inputs and outputs on a controllable device</li> </ul>