



Computing - Pillars of progression

Computer Science (Computing Systems & Networks/Programming)

Information Technology (Data & Information/ Creating Media)

Digital Literacy (Safety & Security/ Effective Communication & Use of tools/ Impact of Technology/ Collaboration)

Subject	Autumn 1 Objectives	Autumn 2 Objectives	Spring 1 Objectives	Spring 2 Objectives	Summer 1 Objectives	Summer 2 Objectives
Year 1	<p>Technology Around Us</p> <p>To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To create rules for using technology responsibly</p>	<p>Digital Painting</p> <p>To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper</p>	<p>Moving a Robot</p> <p>To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem</p>	<p>Grouping Data</p> <p>To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects</p>	<p>Digital Writing</p> <p>To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper</p>	<p>Programming Animations</p> <p>To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program</p>
Year 2	<p>Information Technology Around Us</p> <p>To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology</p>	<p>Digital Photography</p> <p>To know what devices can be used to take photographs To use a digital device to take a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that images can be changed</p>	<p>Robot Algorithms</p> <p>To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written</p>	<p>Pictograms</p> <p>To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer</p>	<p>Making Music</p> <p>To say how music can make us feel To identify that there are patterns in music To describe how music can be used in different ways To show how music is made from a series of notes To create music for a purpose To review and refine our computer work</p>	<p>An Introduction to Quizzes</p> <p>To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved</p>
Year 3	<p>Connecting Computers</p> <p>To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network</p>	<p>Stop Frame Animation</p> <p>To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation</p>	<p>Sequence in Music</p> <p>To explore a new programming environment I can identify that each sprite is controlled by the commands I choose To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description</p>	<p>Branching Databases</p> <p>To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To identify objects using a branching database To explain why it is helpful for a database to be well structured To compare the information shown in a pictogram with a branching database</p>	<p>Desktop Publishing</p> <p>To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing</p>	<p>Events and Actions</p> <p>To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge</p>
Year 4	<p>The Internet</p> <p>To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web To describe how content can be added and accessed on the World Wide Web</p>	<p>Audio Editing</p> <p>To identify that sound can be digitally recorded: To use a digital device to record sound: To explain that a digital recording is stored as a file: To explain that audio can be changed through editing: To show that different types of audio can be combined and played together:</p>	<p>Repetition in Shapes</p> <p>To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a program into parts</p>	<p>Data Logging</p> <p>To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information</p>	<p>Photo Editing</p> <p>To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real</p>	<p>Repetition in games</p> <p>To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design which includes two or more loops which run at the same time</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>To evaluate editing choices made:</p>	<p>To create a program that uses count-controlled loops to produce a given outcome</p>	<p>To identify the data needed to answer questions</p> <p>To use collected data to answer questions</p>	<p>To evaluate how changes can improve an image</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>
<p>Year 5</p>	<p><u>Sharing Information</u></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>To recognise how information is transferred over the internet</p> <p>To explain how sharing information online lets people in different places work together</p> <p>To contribute to a shared project online</p> <p>To evaluate different ways of working together online</p>	<p><u>Video Editing</u></p> <p>To recognise video as moving pictures, which can include audio</p> <p>To identify digital devices that can record video</p> <p>To capture video using a digital device</p> <p>To recognise the features of an effective video</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><u>Selection in Physical Computing</u></p> <p>To control a simple circuit connected to a computer</p> <p>To write a program that includes count-controlled loops</p> <p>To explain that a loop can stop when a condition is met, eg number of times</p> <p>To conclude 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 controllable system that includes selection</p>	<p><u>Flat File Databases</u></p> <p>To use a form to record information</p> <p>To compare paper and computer-based databases</p> <p>To outline how grouping and then sorting data allows us to answer questions</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 apply my knowledge of a database to ask and answer real-world questions</p>	<p><u>Vector Drawing</u></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>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 evaluate my vector drawing</p>	<p><u>Selection in Quizzes</u></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>To explain how selection directs the flow of a program</p> <p>To design a program which uses selection</p> <p>To create a program which uses selection</p> <p>To evaluate my program</p>
<p>Year 6</p>	<p><u>Communication</u></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>To recognise how we communicate using technology</p> <p>To evaluate different methods of online communication</p>	<p><u>Web Page Creation</u></p> <p>To review an existing website and consider its structure</p> <p>To plan the features of a web page</p> <p>To consider the ownership and use of images (copyright)</p> <p>To recognise the need to preview pages</p> <p>To outline the need for a navigation path</p> <p>To recognise the implications of linking to content owned by other people</p>	<p><u>Variables in Games</u></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>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><u>Induction to spreadsheets</u></p> <p>To identify questions which can be answered using data</p> <p>To explain that objects can be described using data</p> <p>To explain that formula can be used to produce calculated data</p> <p>To apply formulas to data, including duplicating</p> <p>To create a spreadsheet to plan an event</p> <p>To choose suitable ways to present data</p>	<p><u>3D Modelling</u></p> <p>To use a computer to create and manipulate three-dimensional (3D) digital objects</p> <p>To compare working digitally with 2D and 3D graphics</p> <p>To construct a digital 3D model of a physical object</p> <p>To identify that physical objects can be broken down into a collection of 3D shapes</p> <p>To design a digital model by combining 3D objects</p> <p>To develop and improve a digital 3D model</p>	<p><u>Sensing</u></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>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>

Digital Literacy Skill progression embedded throughout year group curriculum.

	Generic Skills	Word processing	Spreadsheets	Desktop Publishing
EYFS	Handle a device safely	Identify familiar numbers or letters on a keyboard or screen		Mark make on paint software
Year 1	Log on securely to a device.	Open a document Save a document Type simple sentences Use enter to start a new line Use shift for a capital letter		
Year 2	Point and right click mouse Copy and Paste Opening documents	Save document with a name Change font typeface Change font style Align text Cut copy and paste text Use undo and redo.		Open document Save document with relevant name Create new document Create text box Insert clipart Use undo and redo
Year 3	Copy and Paste shortcuts	Choose a font size Insert image Use cut, copy and paste to duplicate and organise text	Open document Save document with relevant name Create new document Enter data with one row or column Use undo and redo	Change font typeface Change font style Resize text box Resize image Change orientation Insert image
Year 4		Use text shortcuts such as copy (Ctr & C) paste (Ctr & V)	Present data in graph Insert/delete tables rows/columns Format Numbers	Create columns and page guides Insert shape Insert table Resize margins
Year 5	Share a document in relevant spaces Spell check documents	Insert text box Insert/delete rows/columns Insert numbered list Insert bullet points Insert table	Create simple formula using four operations Choose appropriate Graph type to present data Use simple formulae to solve calculations	Insert/delete table rows and columns Format table rows and columns (Colour)
Year 6		Format text to suit a purpose Publish documents online regularly and discuss audience and purpose.	Create complex formula using ranges Create spreadsheet with formula to solve more challenging maths problems.	Format page to appropriate layout