

SUBJECT OVERVIEW – COMPUTING

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p>How to login and off a computer and the importance of keeping my login details safe</p> <p>Use a mouse to drag and click</p> <p>Draw and manipulate shapes with a mouse</p> <p>Create digital art using an online paint tool.</p> <p>Access a website using the internet</p> <p>Layer shapes to create an image</p>	<p>Explore and tinker with hardware</p> <p>Find out and explain how a specific piece of hardware works</p> <p>How a series of instructions is constructed</p> <p>What is a simple program</p> <p>How to create and debug a simple program</p>	<p>Explain what an algorithm is</p> <p>What is a 'bug' in a program?</p> <p>Identify an input and an output device</p> <p>Know what decomposition is</p> <p>Debug a simple program independently</p>	<p>What can you use to take a picture</p> <p>What technology has a camera</p> <p>What does edit, crop, filter mean and how to do this</p> <p>Why you would need to edit a photograph and how to do this</p> <p>What to do if you see an image that upsets you when using a search engine</p>	<p>What is data</p> <p>Ways that data can be displayed</p> <p>Ways data can be collected, interpreted and how to represent data digitally.</p> <p>How branching databases work and how they sort data</p> <p>Computerised devices can understand different types of 'input</p>	<p>What is code and how that can affect an object</p> <p>What a click event is</p> <p>How to combine start events and click events to make a simple game.</p> <p>How to combine start events and click events in code to programme an animated scene.</p> <p>How to debug simple outputs</p>
Year 2	<p>Know and identify the parts of a laptop</p> <p>What an input is (Keyboard. Mouse)</p> <p>Recognise types of technology in the school and their uses</p> <p>The difference between an input and an output (monitor, speaker, printer)</p> <p>Recognise types of technology in the world and their uses</p>	<p>How to touch type, identifying the home keys and how to use the spacebar and backspace correctly.</p> <p>What is word processing, how to store information in a text document and some keyboard shortcuts.</p> <p>How to edit and format images in a text document</p> <p>To use shortcuts copy and paste and to know the importance of referencing copied work.</p> <p>How information is put online, who to talk to if something has been put online without consent or if it is incorrect</p>	<p>Explore and tinker with hardware to find out how it works</p> <p>How to use a blue 'movement' block in ScratchJr</p> <p>How to use a green 'sound' block in ScratchJr</p> <p>Know that a character is controlled by programming blocks</p> <p>What are the uses of Scratch Jnr for coding</p>	<p>What is the international space station and the technology on board</p> <p>How technology is used to create digital images and make labels that can be identified and counted by sensor</p> <p>Using a spreadsheet to record data</p> <p>Create an algorithm using if and when statements</p> <p>How to Interpret data</p>	<p>How to predict algorithms by decomposing a game</p> <p>How are algorithms implemented as programs on digital devices</p> <p>To know how a loop works (Orange block in scratch)</p> <p>The meaning of Abstraction and how it works</p> <p>'Computers' need the 'Programmers' to be correct in their algorithmic construction for the processes to work correctly.</p>	<p>What is animation</p> <p>What is stop motion</p> <p>Create a stop motion animation</p> <p>Elements needed to create an animation</p> <p>How to use a tablet to create a stop motion animation</p>

<p>Year 3</p>	<p>Learn about the uses of emails. Learn how to make emails more interesting, using editing features and adding attachments. Learn to use positive language within an email Recognise when digital behaviour is unkind. Look at spam, junk and phishing emails and how to avoid being tricked by fake emails</p>	<p>Create 'sprites' and 'tinker' to explore the functionality of the different blocks available. Use a loop, 'sound' blocks, real musical notes or select sounds from the library. 'Remix' an animation by altering the program's code Add speech in an animation Represent code on paper and then adapt it or replicate it in Scratch</p>	<p>Know about the different forms of inputs and outputs and their functions, and that computers follows instructions To understand the purpose of parts of a computer CPU and GPU. Know that the hard drive, CPU and RAM are the main components of a computer. QR codes the difference between a desktop, laptop and tablet.</p>	<p>Know what a computer network is and how this connects to multiple devices files travel on a network, known as packets and what these provide Know how most households access the internet via servers across the globe to access files, content & shared data. Know how networks are helpful and what they use to send and receive information from routers and web URLs Understand basic file sharing and how packets of information are shared across the globe.</p>	<p>Know how to create and edit a storyboard Know how to create effects through effective camera use, & tools for editing Know how to edit a video, remove unnecessary details and crop to suit the size of the trailer. Know how to use voiceovers, text, sound effects or music within a video. Know common transitions, including morph, cross zoom, peel off, dip to black, directional wipe digital media.</p>	<p>Use knowledge to purposefully create, organise, store, manipulate and retrieve data. To know that a digital database is more advantageous than a physical database. Know that data can be sorted based on its value. Identifying and reading data bases Know how data is used to more efficiently organise information and can be used to make accurately informed decisions.</p>
<p>Year 4</p>	<p>How to log and sort data taken from online sources within a spreadsheet Explain how a data sensor works How sensor data can be used to make predictions and as a result a response. How weather forecasts are made Know how to use green screen technology in a process called 'chroma key'</p>	<p>Change the position and orientation of a sprite. Use decomposition skills The broadcasting block. When and how to use simple variables. To use multiple variables to complete a specific action An operator and joining variables Create variables in Scratch To know what a conditional statement is in programming. To understand that variables can help you to create a quiz on Scratch.</p>	<p>What a real website address looks like and what WWW stands for. Know which tools to use when editing a webpage. Knowing how to draw web pages, adding annotations and rough placeholder boxes for text and images Know that text at the top of a webpage is called the header and what makes a successful webpage.</p>	<p>What HTML means and what it is used for Know how HTML and CSS can be used to change the look and style of a page How to use the inspect elements tool to alter script and images. Know what "fake news" is What copyright means</p>	<p>Work on shared digital projects and ideas. Computer networks, provide services such as the World Wide Web Use the internet to communicate share, build a website, upload and download documents, stream media and create content online. Create, organise, store, manipulate and retrieve data. Know how best to identify and read data bases, incorporating similar data into an own database</p>	<p>Computational thinking is abstraction, algorithm design, decomposition and pattern recognition. Apply understanding of decomposition to a real world task before analysing Code from Scratch Know what abstraction and pattern recognition are and how they can help us to solve problems. Know how use algorithm design Solve plugged & unplugged challenges, identifying which skills are used.</p>