



Computing Unit Map

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
R	Children know what personal information is and know that it should not be shared online.	recognising the children's use of technology outside of school Children can record videos on the camera Can play simple games on the IWB by dragging and dropping items	Programming Beebots	Children can independently change games or increase levels of difficulty on games.	Children can erase content and understand how to charge a camera. Children can edit photos.	Connecting responsibly Children to begin to practice logging onto the laptops using their own login details
R Consistent learning over the year						
1	<u>Unit: We are treasure hunters</u> Programming – understanding what a basic algorithm is. Outcome: A sequence of instructions that will move a programmable toy along a given route.	<u>Unit: We are TV chefs</u> Programming – recording a simple algorithm as a set of instructions. Outcome: A short video showing how to make a simple meal or snack.	<u>Unit: We are painters</u> Outcome: A piece of electronic artwork to illustrate a traditional tale collated into an e-book.	<u>Unit: We are collectors</u> Outcome: A number of presentation slides each with different collections of animals.	<u>Unit: We are storytellers</u> Outcome: A talking book	<u>Unit: We are celebrating</u> Outcome: A greetings card

1 Consistent learning over the year	Online Safety					
2	<p>Programming. We are Astronauts.</p> <p><u>Unit: We are astronauts</u> Outcome: A Scratch program in which a sprite moves around the screen</p>	<p>Connecting responsibly. We are detectives.</p> <p><u>Unit: We are detectives</u> Outcome: Class emails requesting information to solve a mystery.</p>	<p>Programming. We are games testers.</p> <p><u>Unit: We are games testers</u> Outcome: Notes on how games work as text, audio or screen cast video.</p>	<p>Selecting and combining information. We are researchers. (Research project on GFoL)</p> <p><u>Unit: We are researchers</u> Outcome: Mind maps and a 2 minute multimedia presentation for a specific audience.</p>	<p>Selecting and combining information. We are photographers.</p> <p><u>Unit: We are photographers</u> Outcome: A class portfolio of original photographs.</p>	<p>Selecting and combining information. We are zoologists.</p> <p><u>Unit: We are zoologists</u> Outcome: Charts and maps showing bugs found in different locations.</p>
2 Consistent learning over the year	Online Safety					
3	<p><u>Online safety</u> <u>Copyright & ownership</u></p> <p><u>Unit: We are programmers</u> Outcome: A short, scripted animated cartoon.</p>	<p><u>Online safety</u> <u>Health, well being, lifestyle</u></p> <p><u>Unit: We are bug fixers</u> Outcome: A debugged Scratch script and explanatory</p>	<p><u>Online safety</u> <u>Privacy & Security</u></p> <p><u>Unit: We are presenters</u> Outcome: One minute of edited video of children performing an activity with narrated commentary.</p>	<p><u>Online safety</u> <u>Self-image & Identity</u></p> <p><u>Unit: Online relationships:</u> I can explain what is meant by 'trusting someone online', why this is different</p>	<p><u>Online safety</u> <u>Managing Online information</u></p> <p><u>Unit: We are communicators</u> Outcome: emails. <u>Knowledge</u> Develop a basic</p>	<p><u>Online safety</u> <u>Online reputation</u></p> <p><u>Unit: We are opinion pollsters</u> Outcome: online opinion poll survey, charts showing analysis of data, brief illustrated report.</p>

	<p><u>Knowledge</u></p> <p>Know how to design, write and debug a program to accomplish a specific goal.</p> <p>Know how to use variables and various forms of input and output using Scratch</p> <p>Know how to detect and correct errors in algorithms and programs.</p> <p>Know how to select and combine a variety of software to accomplish a given goal.</p>	<p>screen casts.</p> <p><u>Knowledge</u></p> <p>Understand a number of strategies for finding errors in programs.</p> <p>Understand different strategies for problem solving.</p> <p>Recognise a number of common types of bug in software.</p> <p>Use sequence, selection and repetition in programs.</p>	<p><u>Knowledge</u></p> <p>Know how to use a digital camera or camera app to record a video.</p> <p>Know how to store and retrieve videos.</p> <p>Know how to edit a video including adding narration and editing clips.</p> <p>Understand qualities of effective video such as the importance of narrative, consistency, perspective and scene length.</p>	<p>from 'liking someone online', and why it is important to be careful about who to trust online inc. what information and content they are trusted with.</p> <p><u>Unit: We are vloggers</u></p> <p><u>Knowledge</u></p> <p>Know how to use research tools effectively and safely for specific purpose.</p> <p>Know how to create a presentation for a specific purpose.</p> <p>Find images and audio to combine with a PowerPoint.</p> <p>Know how to deliver a presentation.</p>	<p>understanding of how email works.</p> <p>Be aware of broader issues surrounding email including 'netiquette' and e-safety.</p> <p>compose and send an email.</p> <p>Know appropriate language to use in emails.</p> <p>Know how to edit and format text in emails</p>	<p><u>Knowledge</u></p> <p>Understand some elements of survey design.</p> <p>Understand some ethical and legal aspects of online data collection.</p> <p>Know how to use the web to facilitate data collection.</p> <p>Know how to create a chart and analyse data.</p>
<p>3</p> <p>Consistent learning over the year</p>	<p>Online safety</p>					

<p>4</p>	<p>Internet safety Self-image & Identity Online reputation We are software developers Outcome: Develop an educational computer game. Use a variables on Scratch and debug computer programs. Importance of user interface design.</p>	<p>Internet safety Online bullying We are musicians Outcome: A piece of backing music. Edit music and develop a composition.</p>	<p>Internet safety Online relationships Managing Online information We are co-authors Outcome: Class wiki. Conventions for collaborative online work (wikis). Responsibilities and potential problems associated with using Wikipedia. Use the internet for research.</p>	<p>Internet safety Online reputation We are toy designers Outcome: On screen prototype of a computer controlled toy. Input and output: sensors, switches, motors, lights, speakers (link to science). Design, write and debug a programme.</p>	<p>Internet safety Copyright & ownership We are HTML editors Outcome: HTML challenges and a personal home page. How the internet makes the web possible. Know how to use HTML tags. Use hyperlinks. Code up a simple web page with useful content.</p>	<p>Internet safety Privacy & Security We are meteorologists Outcome: Spreadsheet of weather data collected, chart, maps and graphs of weather data. Use computer-based data logging to record weather data. Use spreadsheets to create charts. Identify inconsistencies in data.</p>
<p>4 Consistent learning over the year</p>	<p>Online safety</p>					
<p>5</p>	<p>Internet safety Self-image & Identity Online relationships We are game developers Outcome: An original computer game Create original artwork and sound for a game. Create a computer game which uses sequence, selection, repetition and</p>	<p>Internet safety Online reputation We are cryptographers Outcome: Morse and semaphore messages, encrypted and decrypted messages. Semaphore and Morse code. Understand the</p>	<p>Internet safety Online bullying Health, well being, lifestyle We are artists Outcome: Pieces of geometric art and a Scratch computer program for drawing shapes. Using tools and techniques of a vector graphics package. Turtle graphics.</p>	<p>Internet safety Privacy & Security We are web developers Outcome: Website offering advice on all aspects of safe and responsible use. Use research skills to decide what information is appropriate. How search engines</p>	<p>Internet safety Copyright & ownership We are architects Outcome: A virtual gallery displaying the pupils' work. Understand the work of architects, designers and engineers working in 3D. Understand how to use a simple CAD</p>	<p>Internet safety Managing Online information We are bloggers Outcome: A media rich online blog. Understand what a blog is and create a sequence of blog posts on a theme. Incorporate additional media. Comment on the</p>

	variables. Detecting and correcting errors in a computer game.	need for private information to be encrypted. Encrypting and decrypting messages in simple ciphers. The need for complex passwords.	Using tools available to refine and develop work. Computer generated art.	select and rank results. Responsible use of technology.	tool.	posts of others. Acceptable behaviour in terms of comments on blogs.
5 Consistent learning over the year	Online safety					
6	<u>Health, wellbeing, lifestyle:</u> <u>Copyright & ownership:</u> <u>Unit: We are app planners</u> Outcome: A presentation to pitch a smartphone or tablet app. <u>Knowledge</u> Understand the capabilities of smartphones and tablets.	<u>Online relationships:</u> I <u>Online reputation:</u> <u>Unit: We are project managers</u> Outcome: A clear and detailed plan for managing the app development project. <u>Knowledge</u> Understand how to scope a	<u>Self-image & Identity:</u> <u>Unit: We are market researchers</u> Outcome: Presentation identifying the market for their app and establishing users' expectations of it. <u>Knowledge</u> <u>Know how to create a set of survey questions.</u> Know how to present the data using different graphing or charting software.	<u>Managing Online information:</u> <u>Unit: We are interface designers</u> Outcome: Wireframe designs and media assets for their apps. <u>Knowledge</u> <u>Understand how to design, write and debug programs to accomplish specific goals including controlling or simulating physical systems.</u>	<u>Online bullying:</u> <u>Unit: We are app developers</u> Outcome: a working app <u>Knowledge</u> Know how to use another programming toolkit or development platform. Know how to import existing media assets to their projects. Know how to record	<u>Privacy & Security:</u> <u>Unit: We are marketers</u> Outcome: Advertising material for the pupils' apps. <u>Knowledge</u> Understand what marketing is and how to identify a USP. <u>To be able to develop and print a brochure incorporating text and images.</u>

	<p>Understand geolocation including GPS.</p> <p>Understand computer networks including the internet and how they provide multiple services.</p> <p>Know how to use search technologies effectively and be discerning in evaluating digital content.</p>	<p>project to identify different components that must be successfully combined. Combine and use a range of programs</p>	<p>Know how to use the information obtained to develop their product.</p> <p>Know how to use different software to present research findings.</p>	<p>Know how to use software to design an apps interface.</p> <p>Know how to use wireframing tools to create a design prototype.</p> <p>Be able to record design decisions and processes.</p>	<p>an algorithm for their app.</p> <p>Know how to program, debug and refine the code.</p> <p>Know how they can test their app.</p>	<p>Further develop knowledge and understanding in relation to creating a website.</p>
<p>6 Consistent learning over the year</p>	<p>Online safety</p>					