

## Sutton Bonington Primary School

## Computing Progression Map – Knowledge and Skills



Information Technology								
Year 1	Mouse and Keyboard Skills 1. Move the mouse or trackpad and left click to select an object. 2. Drag and drop with mouse or trackpad to move objects around the screen. 3. Find letters or numbers on a keyboard. 4. Begin touch typing with home row keys.	Digital Art 1. Change the colour of individual pixels to accurately re-create basic artwork. 2. Make changes where required. 3. Change the colour of individual pixels to accurately re-create detailed artwork. 4. Use zoom controls to help fill small shapes.		Design 1. Change the colour and pattern of elements. 2. Position and rotate objects on a design. 3. Position objects in relation to each other. 4. Resize, rotate, flip and arrange objects behind/in front of each other.		Text and Images 1. Change the background colour of a page. 2. Add, resize and position images (pictures) on a page. 3. Type and position text on a page, if possible using capital letters and punctuation. 4. Label pictures with text. 5. Use word-banks for writing sentences about pictures.		<ul> <li>Music Creation</li> <li>1. Create a rhythm using a pattern of beats.</li> <li>2. Create digital sounds using patterns and shapes.</li> <li>3. Create a simple melody using patterns and adjust tempo.</li> </ul>
Year 2	Digital Art 1. Use lines and fill tools to make interestii 2. Add a variety of shapes (outlines and the them with text. 3. Re-create graphics using pixels with dir colours.	ng patterns. fill) and label fferent	EBook Creation 1. Add a book cover with image. 2. Add multiple pages bas 3. Add text on different po 4. Add images on different theme/text. 5. Add voice recordings to theme.	title, author, colour and sed on a theme. ages. t pages to match the o match the text and	Introducing E 1. Understand tally. 2. Use software data to eac 3. Edit a table 4. Use software chart/line ch 5. Interpret a p	Icing Data Handling stand what data is and collect it as a ftware to label a pictogram and add to each column. table with correct titles and numbers. ftware to create a bar chart/pie 'line chart suitable for the data. ret a pictogram/bar chart/line chart.		uction to Animation d a background and objects to a frame ding text) sy/clone a frame and move objects to e an animation, including flipping objects. ate an animation with multiple objects g simultaneously. ate screen-recording animation (optional, es iPad). ate stop-motion animation with photos nal, requires iPad). ate animated drawings of characters by ing photos and adjusting points of ment.
Year 3	Comic Creation 1. Add, resize and organise colour or picture backgrounds. 2. Add, resize, organise characters/objects to different panels. 3. Add narration using text and direct speech using speech bubbles. 4. Save comic with name and title. 5. Add audio recordings (optional).	Digital Art 1. Use variou: copy/paste of pattern effect 2. Use shapes and flip to cr effects. 3. Use stamp: and multiple animated Gli graphics.	s lines and fill tools plus and rotation to create ts. s, fill, copy/paste, zoom eate reflective symmetry s, copy/paste, layers frames to create F computer game	Music Creation 1. Create ascending and scales. 2. Add chords evenly ac 3. Add arpeggios and m 4. Add a steady and eve 5. Use sampled sounds to effective mix. 6. Build beats, melody (the effects.	d descending ross the scales. elodies. on rhythm. o create an ones) and	Document Editing and Creation 1. Copy and Paste text and images. 2. Find and replace words. 3. Format text for a purpose. 4. Add bullet points to make lists. 5. Experiment with keyboard shortcuts.		<ol> <li>3D Design</li> <li>Understand and use 3D space on a grid.</li> <li>Design cities/towns for a purpose and to a budget.</li> <li>Re-create or design familiar 3D models using cubes, such as tables and chairs.</li> <li>Use chisel tool to improve and adapt models.</li> <li>Colour individual blocks or whole models.</li> </ol>
Year 4	Animation 1. Create a stop-motion video by duplicating slides that include backgrounds and shapes. 2. Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot. 3. Animate individual elements of objects. 4. Create animated GIF files by animating pixels.	Data Handling 1. Change appearance of cells in a spreadsheet (fill colour and border) then add and align text. 2. Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title.		<ul> <li>3D Design</li> <li>1. Understand 3D spacial awareness.</li> <li>2. Add 3D shapes, resize, adjust height, duplicate and use the different perspective.</li> <li>3. Re-create different types of buildings using 3D shapes.</li> <li>4. Create roads/paths by adjusting the height of 3D shapes.</li> <li>5. Add windows and door shapes.</li> </ul>		<ul> <li>Video Editing</li> <li>1. Add scene images.</li> <li>2. Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip).</li> <li>3. Add more clips and use transition effects.</li> <li>4. Add titles.</li> <li>5. Use elements such as shapes.</li> <li>6. Add music background music and adjust the volume.</li> <li>7. Export a project.</li> </ul>		EBook Creation 1. Choose a suitable page shape and add a title and subtitle. 2. Change the background colour/texture of a page. 3. Add, resize and change the colour of a shape then copy and paste it. 4. Search for and add suitable images then resize and position them. 5. Create another page with a background, image, shapes and text. 6. Add an audio recording of the page

								text, including hiding it behind an object. 7. Use hyperlinks for navigation between the pages.
Year 5	App Design 1. Adjust slide size to mimic a phone/tablet size. 2. Add text and images (including transparent images) to a slide. 3. Add icons and text to use as navigation. 4. Duplicate slides to create multiple pages of the app. 5. Create hyperlinks to create navigation.		<ul> <li>Data Handling</li> <li>1. Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells.</li> <li>2. Use formulae to find totals, averages and maximum/minimum numbers.</li> <li>3. Find data and create a spreadsheet to suit it.</li> <li>4. Search a database for specific information.</li> </ul>		Ebook Creation 1. Add page colour and style. 2. Add, position and format text on different pages. 3. Add and position images. 4. Add audio, including hiding it behind an object. 5. Add hyperlinks to text and images. 6. Search for shapes. 7. Lock and arrange shapes (extension task).			
Year 6	Graphic Design 1. Add, adjust and fill shapes. 2. Group shapes to improve accuracy and speed 3. Add and customise gradient effects. 4. Adjust transparency/opacity for a purpose. 5. Use a colour picker correctly. 6. Accurately rotate shapes.	Image Editing 1. Adjust the co improve a phot 2. Create a bef software. 3. Take and cro 4. Add drawing 5. Import new ir fit. 6. Add colour e image using lay	Image Editing 1. Adjust the colours, brightness and contrast to improve a photo. 2. Create a before and after slide in presentation software. 3. Take and crop a screenshot. 4. Add drawing and text layers. 5. Import new images as layers and resize them to fit. 6. Add colour elements to a black and white image using layers and eraser tools.		<ul> <li>Web Design</li> <li>1. Create a static homepage.</li> <li>2. Choose a suitable theme for your website.</li> <li>3. Change the site identity to a suitable title, tagline and website icon.</li> <li>4. Upload a suitable header and/or background image.</li> <li>5. Adjust the website sidebar and add suitable widgets.</li> <li>6. Add text and images to a page and edit them.</li> <li>7. Add multiple pages and edit the navigation, including sub-menus.</li> <li>8. Provide constructive feedback for your classmates' websites.</li> </ul>			Data Detectives 1. Use comprehension skills to find clues that match the column headings of a spreadsheet. 2. Use spreadsheet tools (filters and conditional formatting) to find the specific data to match the clues.

Computer Science						
Year 1	<ul> <li>ear 1 Introduce Programming         <ol> <li>Place instructions into the correct order (sequence) to make something work.</li> <li>Use direction arrows to move an on-screen object (character/sprite) to achieve an objective.</li> <li>Predict a route and sequence direction commands (algorithm) to achieve an objective. Correct the errors if necessary (debug).</li> <li>Predict a route and sequence distance commands to program an on-screen object to achieve an objective.</li> <li>Predict and sequence movement and pen commands to program the drawing of different 2D shapes.</li> <li>Sequence code blocks: including movements and execute (start program to achieve a program to achieve an objective.</li> </ol></li></ul>					
Year 2	Developing Programming 1. Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. 2. Use logical reasoning to predict the behaviour of simple programs. 3. Simplify a program by using a loop.					
Year 3	Programming in Scratch 1. Design, write and debug programs that accomplish specific goals. (Including outputs) 2. Use repetition in programs. 3. Work with various forms of inputs; keyboard, mouse and touch screen. 4. Write programs to simulate physical systems					
Year 4	Programming in Scratch 1. Program inputs with loops, selection and sensing for interactions. 2. Work with variables and various forms of input and output. 3. Debug programs that accomplish goals. (correcting errors) 4. Use selection, data variables and operators. 5. Program a virtual robot using Scratch blacks.					
Year 5	Programming in Scratch 1. Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer. 2. Program distance sensing and movement. 3. Program inputs, outputs, loops, selection (conditions), sensing and variables. 4. Program list variables that chooses randomly.	<ul> <li>Physical Devices</li> <li>1. Understand that computers use physical inputs and outputs and give examples.</li> <li>2. Program physical inputs, outputs (e.g program LED lights) and random variables.</li> <li>3. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.</li> </ul>				
Year 6	Programming in Scratch 1. Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators). 2. Program inputs, selection, sensing, random variables, operators for direction and data variables for scoring. 3. Use inputs, selection, loops, sensing, costume changes and broadcasts. 4. Work with multiple sprites to send broadcast messages between them.	Virtual Reality 1. Understand what virtual reality is and how it can be used to help people. 2. Add, move and resize objects in a virtual reality environment. 3. Animate objects for realism. 4. Use code blocks to add movement (with grouping) and interactions (conditions). 5. Create multiple scenes of VR environments.				

Digital Literacy							
Year 1	E-Safety 1.Understand what the internet is and how people use it. 2.Understand what personal information is and why we keep personal information private. 3. Why do websites want personal information. 4. Identify when and where to go for help when concerned.						
Year 2	E-Safety 1. What are the dangers of sharing photos online? 2. People online are not always who they say they are. 3. Trusting information online. 4. Using the Internet responsibly. 5. Being respectful.	Recognise uses of IT 1. Understand what makes a comp 2. Understand computers store and 3. Spot digital technology in school 4. Understand how different technology	puter a computer. 1 follow instructions. I. ology helps us.	Internet Research 1. Understand how a web-page displays information in different ways; text, images, videos and interactive elements. 2. Use a web-page to answer questions.			
Year 3	E-Safety 1. Understand what to do if something upsets you online. 2. Understand why and how people can be nasty online. 3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. 4. Understand why people pretend to be someone else online. 5. Understand why we only talk to people we know in the real world, when online. 6. Understand why we should not always trust what we read online and how to check 7. Understand the importance of being kind in the real world and also online. 8. Understand the importance of using avatars and how to make them.						
Year 4	Internet Research 1. Use search technologies to find specific pieces of information. 2. Understand features of an Internet Browser. 3. Reference the correct source of information. 4. Be discerning in evaluating digital content. 5. Check the internet for fake news by cross-referencing facts.		<ol> <li>E-Safety</li> <li>Understand what to do if something upsets you online.</li> <li>Understand why and how people can be nasty online.</li> <li>Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.</li> <li>Understand why people pretend to be someone else online.</li> <li>Understand why we only talk to people we know in the real world, when online.</li> <li>Understand why we should not always trust what we read online and how to check</li> <li>Understand the importance of being kind in the real world and also online.</li> <li>Understand the importance of using avatars and how to make them.</li> </ol>				
Year 5	Computer Networks and the Internet 1. Understand Computer Networks, Internet and Cloud Computing and I 2. What is email and how can we use it safely? 3. Understand how and why we collaborate online (including blogging).	how they help us.	E-Safety 1. Keep personal information private. 2.Respect and protect again online bullies. 3. Understand the consequences of sharing photo/videos online. 4. Understand the term digital footprint. 5. How can we check online content is trustworthy. 6. How and where and who can we report concerns we have to. 7. Understand the pitfalls of in-app purchases.				
Year 6	E-Safety 1. Keep personal information private. 2. Respect and protect against online bullies. 3. Understand the consequences of sharing photo/videos online. 4. Understand the term digital footprint. 5. How can we check online content is trustworthy. 6. How, where and who can we report concerns we have to. 7. Use suitable usernames and passwords for online accounts. 8. Understand the pitfalls of in-app purchases. 9. Understand how and why companies/people track our online behavior	our and how we can prevent it.					