

Computing Curriculum Map

Reception	Autumn <ul style="list-style-type: none"> E safety Mouse and Keyboard skills 	Spring <ul style="list-style-type: none"> Computer discovery Digital literacy and numeracy Early programming 	Summer <ul style="list-style-type: none"> Early digital music Digital art and design Digital photos and video
	Unit 1	Unit 2	Unit 3
Year 1	1.1a E safety <ul style="list-style-type: none"> Understand what the internet is and how it's used. Understand what personal information is. Know why we keep personal information private. Identify where to go for help and support. Know what to do if something upsets us online. Know what the dangers are of sharing photos online. Know why it is important to be responsible on the internet. 1.1b Mouse & keyboard skills <ul style="list-style-type: none"> to move the mouse or trackpad with increasing control. left click to select an object and move it objects. find letters and numbers on a keyboard. 	1.2a Introducing programming <ul style="list-style-type: none"> Know how to create a sequence to make something work. Use direction arrows to move on-screen objects. Know how to sequence direction commands. 1.2b Music creation <ul style="list-style-type: none"> Know how to create a rhythm using a pattern of beats. Create a digital sound using patterns. Create a simple melody using patterns. Know how to adjust tempo. 1.2c Text & Images <ul style="list-style-type: none"> Know how to change the background colour of a page. Know how to add and resize images. Know how to type and position text on a page. 	1.3a Comic creation <ul style="list-style-type: none"> Know how to add, resize and organise colour or backgrounds. Know how to add text and speech bubbles. Know how to save a comic with a title. Know how to add and resize characters. Builds on 1.2c 1.3b Digital art <ul style="list-style-type: none"> Know how to change the colour of pixels. Know how to make changes when required. 1.3c 3D design <ul style="list-style-type: none"> Know how to change colour and pattern. Know how to position and rotate objects. Know how to position objects in relation to each other. Know how to resize, rotate and flip objects.
Year 2	2.1a E safety <ul style="list-style-type: none"> Understand what the internet is and how it's used. Understand what personal information is. Know why we keep personal information private. Identify where to go for help and support. Know what to do if something upsets us online. Know what the dangers are of sharing photos online. Know why it is important to be responsible on the internet. Builds on 1.1a	2.2a Develop programming <ul style="list-style-type: none"> Know how to create and debug simple programmes. Know how to place code blocks in the correct sequence. Know how to use a loop to simplify a program. Builds on 1.2a 2.2b Programming with Scratch Jr. <ul style="list-style-type: none"> Know how to program a movement. 	2.3a Digital art <ul style="list-style-type: none"> Know how to use lines and fill tools to make interesting patterns. Know how to add a variety of shapes. Know how to label shapes with text. Know how to re-create a graphic using pixels. Builds on 1.3b 2.3b Introduction to animation <ul style="list-style-type: none"> Know how to add a background and objects to

	<p>2.1b Recognise uses of IT</p> <ul style="list-style-type: none"> Recognise common uses of information technology. Understand the computer stores and follow instructions. Be able to spot technology at home or in school. Understand how different technology helps us. <p>2.1c Typing</p> <ul style="list-style-type: none"> Know where to find letters and numbers on a keyboard. Know the correct hand and finger position for typing. 	<ul style="list-style-type: none"> Know how to program outputs for audio or text. Know how to find errors in a program. Know how to program inputs by touch or click. <p>2.2c Internet research</p> <ul style="list-style-type: none"> Understand how web-pages display information. Know how to use a web-page to answer questions. 	<p>a frame.</p> <ul style="list-style-type: none"> Know how to copy/clone a frame. Know how to move objects to create animation. Know how to create animation with multiple objects moving simultaneously. <p>2.3c Introduce data handling</p> <ul style="list-style-type: none"> Understand what data is and collect is as a tally. Know how to use software to label a pictogram. Know how to use software to add data to each column. Know how to create a bar chart/pie chart using suitable data.
Year 3	<p>3.1a E safety</p> <ul style="list-style-type: none"> Know what to do if something upsets you online. Know the term 'sharing online' and what this means. Know why we need permission before sharing photos and videos online. Understand why we only talk to people we know in the real world, when online. Know not to always trust what we read online. Understand the importance of being kind online. <p>Builds on 2.1a</p> <p>3.1b Infographics</p> <ul style="list-style-type: none"> Understand what infographics are. Know why we use infographics. Know how to add and format suitable titles and text. Know how to label an image using arrows. <p>3.1c Branching databases</p> <ul style="list-style-type: none"> Know how to add and label objects. Know how to ask questions to classify objects correctly. <p>3.1d Typing</p> <ul style="list-style-type: none"> Know that different keys on a keyboard have different functions. Know how to correctly position hands and fingers when touch typing. Begin to develop touch typing skills. Know where the different keys on a keyboard are located. 	<p>3.2a Programming in Scratch</p> <ul style="list-style-type: none"> Know how to design, write and debug programs that accomplish specific goals. Know how to use repetition in programs. Know how to work with various forms of inputs; keyboard, mouse and touch screen. Know how to write programs that simulate physical systems. <p>Builds on 2.2a and 2.2b</p> <p>3.2b Music creation</p> <ul style="list-style-type: none"> Know how to create an ascending and descending scale. Know how to add chords evenly across the scales. Know how to add a steady and even rhythm. Know how to build beats, melody and effects. <p>Builds on 1.2b</p> <p>3.2c Document editing and creation</p> <ul style="list-style-type: none"> Know how to copy and paste text and images. Know how to find and replace words. Know how to format text for a purpose. Know how to edit images inside documents. Know how to add bullet points to make lists. Begin to experiment with keyboard shortcuts. 	<p>3.3a Digital art</p> <ul style="list-style-type: none"> Know how to use various lines and fill tools. Know how to copy/paste and rotate to create pattern effects. Know how to use shapes, fill, copy/paste and flip to create a reflective symmetry effect. Know how to use stamps, layers and multiple frames to create animated GIF compute game graphics. <p>Builds on 2.3a</p> <p>3.3b 3D design</p> <ul style="list-style-type: none"> Understand and use 3D space on a grid. Know how to re-create or design familiar 3D models using cubes. Know how to use a chisel tool to improve and adapt models. Know how to colour individual blocks or whole models. <p>3.3c Comic creation</p> <ul style="list-style-type: none"> Know how to add, resize and organise colour or picture backgrounds. Know how to add, resize, organise characters/objects to different panels. Know how to add narration using text and direct speech using speech bubbles. Know how to save a comic with a name and title. <p>Builds on 1.2c and 1.3a</p>

	<p>Builds on 2.1c</p>		<p>3.3d Digital storyboards</p> <ul style="list-style-type: none"> ● Know how to add and edit backgrounds. ● Know how to add and edit characters, including posture and expression. ● Know how to add narration and speech bubbles, including formatting text. ● Know how to duplicate objects. ● Know how to search for objects to use. <p>Builds on 3.3c</p>
<p>Year 4</p>	<p>4.1a E safety</p> <ul style="list-style-type: none"> ● Know what to do if something upsets you online. ● Know the term 'sharing online' and what this means. ● Know why we need permission before sharing photos and videos online. ● Understand why we only talk to people we know in the real world, when online. ● Know not to always trust what we read online. ● Understand the importance of being kind online. <p>Builds on 3.1a</p> <p>4.1b Internet research</p> <ul style="list-style-type: none"> ● Understand the features of an Internet Browser. ● Know how to use search technologies (different websites) to find specific information. ● Know how to reference the correct source of information. ● Know how to check the internet for fake news by cross-referencing. <p>4.1c Typing</p> <ul style="list-style-type: none"> ● Know that different keys on a keyboard have different functions. ● Know how to correctly position hands and fingers when touch typing. ● Begin to develop touch typing skills. ● Know where the different keys on a keyboard are located. <p>Builds on 3.1d</p>	<p>4.2a Programming in Scratch</p> <ul style="list-style-type: none"> ● Know how to program inputs with loops, selection and sensing for interactions. ● Know how to work with variables and various forms of inputs and outputs. ● Know how to debug programs. ● Know how to use selection, data variables and operators. <p>Builds on 3.2a</p> <p>4.2b Inside a computer</p> <ul style="list-style-type: none"> ● Understand what important parts of inside a computer or mobile device do to help with performance. ● Understand that memory is measured in bytes and gigabytes. ● Know how to use search filters on websites to find suitable information. <p>Builds on 3.1a</p> <p>4.2c 3D design</p> <ul style="list-style-type: none"> ● Understand 3D spatial awareness. ● Know how to add 3D shapes, resize, adjust height, duplicate and use the different perspectives. ● Know how to add, move and change colours and duplicate. ● Know how to rotate objects. <p>Builds on 3.3b</p> <p>Final Outcome: 3D village/3D vehicle</p> <p>4.2d Graphic Design</p> <ul style="list-style-type: none"> ● Know how to create an icon using different shapes and fill tools. ● Know how to combine shapes and lines. 	<p>4.3a Data handling</p> <ul style="list-style-type: none"> ● Know how to change the appearance of cells in a spreadsheet. ● Know how to add and align text in a spreadsheet. ● Know how to find and add data to a spreadsheet. ● Know how to resize cells and use the software to create a suitable chart with a title. <p>4.3b Animation</p> <ul style="list-style-type: none"> ● Know how to duplicate slides that include backgrounds and shapes. ● Know how to use transition and animation effects (morph, motion paths, pulse), including taking and editing a screenshot. ● Know how to animate individual elements of objects. ● Know how to animate GIF files by animating pixels. <p>Builds on 2.3b</p> <p>Final Outcome: Animated fish</p> <p>4.3c Ebook Creation</p> <ul style="list-style-type: none"> ● Know how to choose a suitable page shape and add a title and subtitle. ● Know how to change the background colour and texture of a page. ● Know how to add, resize and change the colour of a shape before copy and pasting. ● Know how to search for and add suitable images and resize and position them. ● Know how to create another page. ● Know how to use hyperlinks for navigation between pages. <p>Final Outcome: Ebook</p>

		<ul style="list-style-type: none"> ● Know how to arrange shapes and lines in front/behind each other. ● Know how to combine shapes, colour and text to re-create an icon. ● Know how to change the colour, size and style of text. ● Know how to use masking and opacity tools. <p>Builds on 3.3a</p>	<p>4.4d Video editing</p> <ul style="list-style-type: none"> ● Know how to add scene images. ● Know how to add a scripted voiceover audio, adjust the volume and crop clips. ● Know how to add more clips and use transition effects. ● Know how to add background music and adjust the volume. ● Know how to export a project.
Year 5	<p>5.1a E safety</p> <ul style="list-style-type: none"> ● Understand to keep personal information private. ● Know how to protect against online bullies. ● Understand the consequences of sharing photos and videos online. ● Understand the term digital footprint. ● Know how to check online content is trustworthy. ● Understand how, where and who we can report concerns we have to. ● Understand the pitfalls of in-app purchases. <p>Builds on 4.1a</p> <p>5.1b Typing</p> <ul style="list-style-type: none"> ● Know that different keys on a keyboard have different functions. ● Know how to correctly position hands and fingers when touch typing. ● Begin to develop touch typing skills. ● Know where the different keys on a keyboard are located. <p>Builds on 4.1c</p> <p>5.1c Computer networks and the internet</p> <ul style="list-style-type: none"> ● Understand Computer Networks, Internet, Cloud Computing and Bluetooth and how they help us. ● Know what email is and how we can use it safely. ● Understand how and why we collaborate online. 	<p>5.2a Programming in Scratch</p> <ul style="list-style-type: none"> ● Know how to program inputs for control, selection and sensing for interaction. ● Know how to program distance sensing and movement. ● Know how to program inputs, outputs, loops, selection, sensing and variables. ● Know how to program list variables that are chosen randomly. <p>Builds on 4.2a</p> <p>Final Outcome: Programme a football game</p> <p>5.2b Text-based programming</p> <ul style="list-style-type: none"> ● Know how to change the variables of text-based commands. ● Know how to write text-based commands accurately and use fill effects, stamps and functions. ● Know how to program a loop. ● Know how to use coordinates in text-based programming. ● Know how to write text commands/functions to program keyboard inputs. <p>Final Outcome: Programme own Code Monkey game</p> <p>5.2c Physical devices</p> <ul style="list-style-type: none"> ● Understand that computers use physical inputs and outputs. ● Know how to program physical inputs, outputs and loops. ● Know how to design, write and debug programs that accomplish specific goals. <p>Final Outcome: Programme a micro:bit</p>	<p>5.3a Data handling</p> <ul style="list-style-type: none"> ● Know how to select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. ● Know how to find data and create a spreadsheet to suit it. ● Know how to use formulae to find totals, averages and maximum/ minimum numbers. ● Know how to search a database for specific information. <p>5.3b Music creation</p> <ul style="list-style-type: none"> ● Know how to layer tracks using sounds and effects. ● Know how to create effective instrument tracks. ● Know how to edit tracks and effectively adjust volume and add effects. <p>Builds on 3.2b</p> <p>Final Outcome: Create a piece of music</p> <p>5.3c App design</p> <ul style="list-style-type: none"> ● Know how to use the tools in different presentation software. ● Know how to change a slide size and background colour. ● Know how to add text and images on different pages. ● Know how to insert icons. ● Know how to include interactions using hyperlinks. <p>Builds on 4.3b</p> <p>Final Outcome: Create an app about your school</p> <p>5.4d Ebook creation</p> <ul style="list-style-type: none"> ● Know how to add page colour and style.

			<ul style="list-style-type: none"> ● Know how to add, position and format text on different pages. ● Know how to add and position images. ● Know how to add audio, including hiding it behind an object. ● Know how to add hyperlinks to text and images. ● Know how to search for shapes. ● Know how to lock and arrange shapes. <p>Builds on 4.3c</p> <p>Final Outcome: Ebook</p>
Year 6	<p>6.1a E safety</p> <ul style="list-style-type: none"> ● Understand to keep personal information private. ● Know how to protect against online bullies. ● Understand the consequences of sharing photos and videos online. ● Understand the term digital footprint. ● Know how to check online content is trustworthy. ● Understand how, where and who we can report concerns we have to. ● Understand the pitfalls of in-app purchases. <p>Builds on 5.1a</p> <p>6.1b Computers: Past, Present and Future</p> <ul style="list-style-type: none"> ● Understand how computers and digital technology help us today. ● Understand how technology has changed over time. ● Understand the impact technological changes have on society. ● Begin to predict how technology will change in the future. <p>Final Outcome: Powerpoint presentation of changes in computers</p> <p>6.1c Machine learning and artificial intelligence</p> <ul style="list-style-type: none"> ● Understand how computers use information. ● Understand and use examples of machine learning. ● Understand how artificial intelligence is used to perform tasks. ● Know potential dangers of artificial intelligence. 	<p>6.2a Programming in Scratch</p> <ul style="list-style-type: none"> ● Know how to program inputs, selection, loops and random variables for unpredictability. ● Know how to program inputs, selection, sensing, random variables, operators for direction and data variables. ● Know how to use inputs, selection, loops, sensing, costume changes and broadcasts. ● Know how to work with multiple sprites to send broadcast messages between them. <p>Builds on 5.2a</p> <p>6.2b Python programming language</p> <ul style="list-style-type: none"> ● Know how to write basic python syntax. ● Know how to print text in python. ● Know how to program loops to repeat text. ● Know how to program interactive inputs. ● Know how to find errors in a program. <p>Builds on 5.2b</p> <p>6.2c Binary code</p> <ul style="list-style-type: none"> ● Understand why computers/electronics use binary. ● Know how to match a sequence of binary code to create digital art. ● Know how to convert binary code to denary numbers (decimal numbers) and visa versa. <p>6.3d HTML</p> <ul style="list-style-type: none"> ● Know how to add and align text and change colour. ● Know how to program background colour. 	<p>6.3a Graphic design</p> <ul style="list-style-type: none"> ● Know how to add, adjust and fill shapes. ● Know how to group shapes to improve accuracy and speed. ● Know how to add and customise gradient effects. ● Know how to adjust transparency/opacity for a purpose. ● Know how to accurately rotate shapes. <p>Builds on 4.2d</p> <p>6.3b Image editing</p> <ul style="list-style-type: none"> ● Know how to adjust colours, brightness and contrast, ● Know how to create a before and after slide in presentation software. ● Know how to take and crop a screenshot. ● Know how to add drawing and text layers. ● Know how to import new images as layers and resize them. ● Know how to add colour elements to a black and white photo. <p>6.3c Data detectives</p> <ul style="list-style-type: none"> ● Know how to use spreadsheet tools (filter and conditional formatting) to find specific data. <p>Builds on 5.3a</p> <p>6.3d Virtual reality</p> <ul style="list-style-type: none"> ● Understand what virtual reality is and how it can be used. ● Know how to add, move and resize objects in a

		<ul style="list-style-type: none">• Know how to add and align images.• Know how to add hyperlinks to other websites.• Know how to add an iframe and adjust the height and width. <p>Builds on 5.2b</p>	<p>virtual reality environment.</p> <ul style="list-style-type: none">• Know how to animate objects for realism.• Know how to use code blocks to add movement and interactions.
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