

Computing Long Term Plan

Computing	EYFS		Year 1	Year 2
	<p>N: Taking a photograph with a camera or tablet</p> <p>R: Recognise different uses of technology</p> <p>Use a simple computer programme</p> <p>Know to ask an adult if feeling unsafe online</p>	<p>Autumn 1</p> <p>How We Express Ourselves</p>	<p>Area: Technology Around Us</p> <p>Coverage/Progression:</p> <p>I can explain technology as something that helps us.</p> <p>I can locate examples of technology in the classroom.</p> <p>I can name the main parts of a computer.</p> <p>I can switch on and log into a computer.</p> <p>I can use a mouse to click, drag, open programmes and make a picture.</p> <p>I can type my name on a computer.</p> <p>I can use the shift key to type a capital letter.</p> <p>I can delete letters.</p> <p>I can identify what I shouldn't put online.</p> <p>I can identify what personal information means.</p> <p>I can identify the internet around the room.</p> <p>I can explain what I like/dislike when online.</p> <p>I can identify what's real and make believe online.</p> <p>I can choose kind emojis to send to people in the classroom.</p> <p>I understand what permission means.</p>	<p>Area: Computer Systems</p> <p>Coverage/Progression:</p> <p>I can identify some uses and examples of computers</p> <p>I can find examples, talk about uses and compares types of information technology</p> <p>I can explain how technology helps people</p> <p>I can recognise how to use IT responsibly</p> <p>I can recognise how to use IT responsibly</p> <p>I know how long information stays online</p> <p>I know about parts of a webpage</p>
		<p>Autumn 2</p> <p>Who We Are</p>	<p>Area: Digital Painting</p> <p>Coverage/Progression:</p> <p>I can make marks, draw lines and use paint tools on a screen.</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can follow instructions given by someone else</p> <p>I can give clear and unambiguous instructions</p>

			<p>I can explain which tools I used to draw a picture. I can use the shape and line tools effectively. I can change the colour and brush sizes. I can use the shape and line tools to recreate the work of an artist. I can open google docs.</p>	<p>I can use an algorithm to program a sequence on a floor robot I can show the difference in outcomes between two sequences that consist of the same commands I can predict the outcome of a sequence I can compare my prediction to the program outcome I can identify different routes around my mat I can test my mat to make sure that it is usable</p> <p>I can recognise kind and unkind behaviours online I can recognise how I feel when I am online I know what to do if I am angry online</p>
		<p>Spring 1 Sharing The Planet</p>	<p>Area: Digital Writing</p> <p>Coverage/Progression:</p> <p>I can open google docs. I can use a mouse to click, drag, open programmes and make a picture. I can type my name on a computer. I can use the shift key to type a capital letter. I can delete letters. I can identify, recognise and find letters and numbers on a keyboard. I can use the spacebar, backspace bar, letters and numbers to type. I can identify the toolbar and use bold, italic and underline. I can change the font. I can use 'undo' to remove changes.</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can describe how music makes me feel, e.g. happy or sad I can create a rhythm pattern I can play an instrument following a rhythm pattern I can use a computer to experiment with pitch and duration I can describe an animal using sounds I can explain how I made my work better</p> <p>I understand the importance of a password</p>
		<p>Spring 2 Where We Are In Place And Time</p>	<p>Area: Grouping Data</p> <p>Coverage/Progression:</p> <p>I can match objects to groups. I can find objects with similar properties.</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can sort devices into old and new I can capture digital photos</p>

			<p>I can group similar objects. I can group objects in more than one way. I can choose how to group objects.</p>	<p>I can take photos in both portrait and landscape I can discuss what makes a good photograph I can experiment with different light sources for my photos I can identify which images are real and which have been changed</p> <p>i know what I shouldn't put online I know that I should discuss my worries with a trusted adult</p>
		<p>Summer 1 How The World Work</p>	<p>Area: Moving Robots</p> <p>Coverage/Progression:</p> <p>I can predict the outcome of a command on a device. I can run a command on a device. I can follow an instruction. I can give directions. I can predict the outcome of a sequence involving forwards and backwards commands. I can experiment with turn and move commands to move a robot. I can explain what my program should do. I can choose the order of commands in a sequence. I can debug my programme. I can identify several possible solutions.</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can plan algorithms for different parts of a task I can test and debug each part of the program I can show how to run my program I can match two sequences with the same outcome I can change the outcome of a sequence of commands I can decide which blocks to use to meet the design I can build the sequences of blocks I need I can choose backgrounds for the design I can choose characters for the design I can choose the images for my own design I can improve my project by adding features I can debug</p> <p>I know when to ask for permission</p>
		<p>Summer 2 How We Organise Ourselves</p>	<p>Area: Animation</p> <p>Coverage/Progression:</p> <p>I can use commands to move a sprite. I can use more than one block by joining them</p>	<p>Area: Data and Information</p> <p>Coverage/Progression:</p> <p>I can enter data onto a computer I can use pictograms to answer simple questions</p>

			<p>together.</p> <p>I can run my programme.</p> <p>I can find blocks which have numbers.</p> <p>I can change the value.</p> <p>I can delete a sprite.</p> <p>I can add blocks to each of my sprites.</p> <p>I can decide how each of my sprites will move.</p> <p>I can create an algorithm for each sprite.</p> <p>I can test the programs I have created.</p>	<p>about objects</p> <p>I can use a tally chart to create a pictogram</p> <p>I can explain what the pictogram shows</p> <p>I can use a computer program to present information in different ways</p> <p>I can share what I have found out using a computer</p>
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Computing	Year 3	Year 4	Year 5	Year 6
<p>Autumn 1</p> <p>How We Express Ourselves</p>	<p>Area: Computer systems</p> <p>Coverage/Progression:</p> <p>I can explain that digital devices accept inputs and produces outputs</p> <p>I can classify input and output devices</p> <p>I can model a simple process</p> <p>I can design a digital device</p> <p>I can suggest differences between using digital devices and non-digital tools</p> <p>I can explain how messages are passed through multiple connections</p> <p>I can explain the role of a switch, server, and wireless access point in a network</p> <p>I can identify the benefits of computer networks</p>	<p>Area: Online Safety</p> <p>Coverage/Progression:</p> <p>I know what I should keep private online.</p> <p>I know what cookies are used for.</p> <p>I know the age of consent for social media.</p> <p>I understand the difference between fact, opinion and belief.</p> <p>I can tell if someone is angry, upset or hurt online.</p> <p>I know how I can stand up to others online.</p> <p>I know how to be healthy online.</p> <p>I can recognise healthy habits online.</p>	<p>Area: Computer Systems</p> <p>Coverage/Progression:</p> <p>I can describe that a computer system features inputs, processes, and outputs</p> <p>I can explain that computer systems communicate with other devices</p> <p>I can recognise that connected digital devices can allow us to access shared files stored online</p> <p>I can send information over the internet in different ways</p> <p>I can explain that the internet allows different media to be shared</p> <p>I can make thoughtful suggestions on my group's work</p> <p>I can compare working online with working offline</p> <p>I can explain how the internet enables effective collaboration</p>	<p>Area:Computer Systems</p> <p>Coverage/Progression:</p> <p>I can complete a web search to find specific information</p> <p>I can refine my search</p> <p>I can compare results from different search engines</p> <p>I can explain that search results are ordered</p> <p>I can explain that a search engine follows rules to rank relevant pages</p> <p>I can suggest some of the criteria that a search engine checks to decide on the order of results</p> <p>I can describe some of the ways that search results can be influenced</p> <p>I can recognise some of the limitations of search engines</p> <p>I can explain how search engines make money</p> <p>I can compare different methods of communicating on the internet</p> <p>I can decide when I should and should not share</p>

				I can explain that communication on the internet may not be private
Autumn 2 Who We Are	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can draw a sequence of pictures I can create an effective flip book—style animation I can explain how an animation/flip book works I can predict what an animation will look like I can explain why little changes are needed for each frame I can use onion skinning to help me make small changes between frames I can evaluate my final film I can identify the advantages and disadvantages of using text and images I can change font style, size, and colours for a given purpose I can edit text I can paste text and images I can make changes to content after I've added it I can identify the uses of desktop publishing in the real world</p>	<p>Area: Computer systems</p> <p>Coverage/Progression:</p> <p>I can demonstrate how information is shared across the internet. I can recognise that the World Wide Web is the part of the internet that contains websites and web pages. I can explain the types of media that can be shared on the World Wide Web (WWW). I can describe how to access websites on the WWW. I can explain that new content can be created online. I can explain that websites and their content are created by people. I can explain that there are rules to protect content. I can explain that not everything on the World Wide Web is true. I can explain why some information I find online may not be honest, accurate, or legal. I can explain why I need to think carefully before I share or reshare</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can recognise that vector drawings are made using shapes I can identify the main drawing tools I can discuss how a vector drawing is different from paper-based drawings I can identify the shapes used to make a vector drawing I can move, resize, and rotate objects I have duplicated I can use the zoom tool to help me add detail to my drawings I can explain how alignment grids and resize handles can be used to improve consistency I can identify that each added object creates a new layer in the drawing I can change the order of layers in a vector drawing I can suggest improvements to a vector drawing</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can explain why we might represent 3D objects on a computer I can select, move, and delete a digital 3D shape I can resize a 3D object I can change the colour of a 3D object I can rotate a 3D object I can position 3D objects in relation to each other I can identify the 3D shapes needed to create a model of a real-world object I can decide how my model can be improved I can modify my model to improve it</p>

		content.		
Spring 1 Sharing The Planet	<p>Area: Online Safety</p> <p>Coverage/Progression:</p> <p>I know what I should keep private online I know how to create a strong password I can explain what autocomplete means I know how to be kind online I know what happens when I share something online I can recognise how my feelings can change when being online I know what to do if I feel angry when I'm online</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can explore how images can be changed in real life. I can explain the effect that editing can have on an image. I can explain what has changed in an edited image. I can talk about changes made to images. I can choose effects to make my image fit a scenario. I can identify how an image has been retouched. I can give examples of positive and negative effects that retouching can have on an image. I can sort images into 'fake' or 'real' and explain my choices. I can consider the effect of adding other elements to my work.</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can explain the benefits of adding audio to a video I can plan a video project using a storyboard I can choose the most suitable digital device for recording my project I can demonstrate the safe use and handling of devices I can record a video that demonstrates some of the features of an effective video I can explain why lighting and angle are important in creating an effective video I can explain how to improve a video by reshooting and editing I can select the correct tools to make edits to my video I can evaluate my video and share my opinions</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can discuss the different types of media used on websites I can recognise the common features of a web page I can suggest media to include on my page I can say why I should use copyright-free images I can find copyright-free images I can add content to my own web page I can preview what my web page looks like I can evaluate what my web page looks like on different devices and suggest/make edits.</p>
Spring 2 Where We Are In Place And Time	<p>Data and Information</p> <p>I can make up a yes/no question about a collection of objects I can select an attribute to separate objects into groups I can arrange objects into a tree structure I can group objects using my own yes/no questions I can prove my branching database works I can explain that questions need</p>	<p>Area: Creating Media</p> <p>Coverage/Progression:</p> <p>I can identify digital devices that can record sound and play it back. I can use a device to record audio and play back sound. I can suggest how to improve my recording. I can discuss what other people include when recording sound for a podcast.</p>	<p>Data and Information</p> <p>I can order, sort, and group my data cards I can navigate a flat-file database to compare different views of information I can explain what a 'field' and a 'record' is in a database I can group information to answer questions I can combine grouping and sorting to answer more specific</p>	<p>Data and information</p> <p>I can explain the relevance of data headings I can answer questions from an existing data set I can ask simple relevant questions which can be answered using data I can construct a formula in a spreadsheet I can identify that changing inputs</p>

	<p>to be ordered carefully to split objects into similarly sized groups</p> <p>I can explain what a pictogram tells me</p> <p>I can explain what a branching database tells me</p> <p>I can compare two ways of presenting information</p>	<p>I can plan and write the content for a podcast.</p> <p>I can choose suitable sounds to include in a podcast.</p> <p>I can discuss the features of a digital recording I like.</p> <p>I can suggest improvements to a digital recording.</p>	<p>questions</p> <p>I can outline how 'AND' and 'OR' can be used to refine data selection</p> <p>I can select an appropriate chart to visually compare data</p> <p>I can explain the benefits of using a computer to create graphs</p>	<p>changes outputs</p> <p>I can create a formula which includes a range of cells</p> <p>I can produce a graph</p> <p>I can use a graph to show the answer to questions</p>
<p>Summer 1 How The World Works</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can identify the objects in a Scratch project (sprites, backdrops)</p> <p>I can recognise that commands in Scratch are represented as blocks</p> <p>I can choose a word which describes an on-screen action for my design</p> <p>I can explain what a sequence is</p> <p>I can combine sound commands</p> <p>I can decide the actions for each sprite in a program</p> <p>I can implement my algorithm as code</p> <p>I can choose which keys to use for actions and explain my choices</p> <p>I can choose a character for my project</p> <p>I can program movement</p> <p>I can choose blocks to set up my program</p> <p>I can build more sequences of commands to make my design work</p> <p>I can match a piece of code to an outcome</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can program a computer by typing commands.</p> <p>I can explain the effect of changing a value of a command.</p> <p>I can write an algorithm to produce a given outcome.</p> <p>I can identify patterns in a sequence, eg 'step 3 times' means the same as 'step, step, step'.</p> <p>I can use a count-controlled loop to produce a given outcome.</p> <p>I can predict the outcome of a program containing a count-controlled loop.</p> <p>I can design a program that includes count-controlled loops.</p> <p>I can develop my program by debugging it.</p> <p>I can modify loops to produce a given outcome.</p> <p>I can choose when to use a count-controlled and an infinite loop.</p> <p>I can choose which action will be</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can build a simple circuit to connect a microcontroller to a computer</p> <p>I can program a microcontroller to light an LED</p> <p>I can explain why I used an infinite loop</p> <p>I can connect more than one output device to a microcontroller</p> <p>I can design sequences for given output devices</p> <p>I can decide which output devices I control with a count controlled loop</p> <p>I can program a microcontroller to respond to an input</p> <p>I can use selection (an if... then... statement) to direct the flow of a program</p> <p>I can write an algorithm to control lights and a motor</p> <p>I can use selection to produce an intended outcome</p> <p>I can test and debug my project</p>	<p>Area: Programming</p> <p>Coverage/Progression:</p> <p>I can identify that variables can hold numbers or letters</p> <p>I can explain that a variable has a name and a value</p> <p>I can recognise that the value of a variable can be changed</p> <p>I can choose the artwork for my project</p> <p>I can explain my design choices</p> <p>I can create algorithms for my project</p> <p>I can identify ways that my game could be improved</p> <p>I can extend my game further using more variables</p> <p>I can share my game with others</p> <p>I can apply my knowledge of programming to a new environment</p> <p>I can test my program on an emulator</p> <p>I can transfer my program to a controllable device</p> <p>I can use a variable in an if... then... else... statement to select the flow of a program</p> <p>I can determine the flow of a</p>

	I can evaluate my project	<p>repeated for each object. I can explain what the outcome of the repeated action should be. I can evaluate the effectiveness of the repeated sequences used in my program. I can identify which parts of a loop can be changed. I can explain the effect of my changes. I can re-use existing code snippets on new sprites. I can refine the algorithm in my design.</p>		<p>program using selection I can experiment with different physical inputs I can decide what variables to include in a project I can design the algorithm for my project I can test my program against my design I can use a range of approaches to find and fix bugs</p>
Summer 2 How We Organise Ourselves		<p>Area: Data and Information</p> <p>Coverage/Progression: I can suggest questions that can be answered using a given data set. I can identify that data from sensors can be recorded. I can identify the intervals used to collect data. I can talk about the data that I have captured. I can use a computer to view data in different ways. I can use a computer program to sort data. I can plan how to collect data using a data logger. I can use a data logger to collect data. I can draw conclusions from</p>	<p>Area: Programming and Online Safety</p> <p>Coverage/Progression: <i>I can use selection in an infinite loop to check a condition</i> <i>I can identify the condition and outcomes in an if..then... else statement</i> <i>I can create a program with different outcomes using selection</i> <i>I can show that a condition can direct program flow in one of two ways</i> <i>I can implement my algorithm to create the first section of my program</i> <i>I can test my program</i> <i>I can share my program with others</i> <i>I know what I should share online and what I should keep private</i></p>	<p>Area: Online Safety</p> <p>Coverage/Progression: <i>I understand how others may perceive us based on what we put online</i> <i>I know how to change my privacy settings</i> <i>I know how to use the privacy settings to keep myself safe</i> <i>I know how search engines work and how information is ranked</i> <i>I know what a pop-up advert is</i> <i>I can create a pop up advert</i> <i>I know how to stand up to others online and not be a bystander</i> <i>I can create healthy habits when online</i></p>

		<p>the data that I have collected. I can suggest questions that can be answered using a given data set. I can identify that data from sensors can be recorded. I can identify the intervals used to collect data. I can talk about the data that I have captured. I can use a computer to view data in different ways. I can use a computer program to sort data.</p>	<p><i>I can make judgements based on evidence</i> <i>I know what phishing is</i> <i>I can spot fake news</i> <i>I understand why people write fake news</i> <i>I know who I need to contact if I need help with something I have seen online</i> <i>I can change my messages from negative to positive</i> <i>I know what emojis, gifs and memes are</i> <i>I can create my own kind memes or gifs</i> <i>I can talk about how being online makes me feel</i></p>	
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Establishing strong roots, developing confident global citizens