

## Year 4 Computing Medium Term Planning

Year 4	Information Technology	Digital Literacy/e-Safety	Computer Science
<p style="text-align: center;"><b>Autumn 1</b></p> <p><b>Link to further resources:</b></p> <p><a href="#"><u>Computing systems and networks</u></a> <i>The Internet</i></p> <p><b>Unplugged activities.</b></p>	<ul style="list-style-type: none"> <li>● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>● Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	
	Key Skills/Knowledge	Key Skills/Knowledge	Key Skills/Knowledge
	<ul style="list-style-type: none"> <li>● I can describe the internet as a network of networks.</li> <li>● I can demonstrate how information is shared across the internet.</li> <li>● I can discuss why a network needs to be protected.</li> <li>● I can describe networked devices and how they connect.</li> <li>● I can explain that the internet is used to provide many services.</li> <li>● I can recognise that the World Wide Web contains websites and web pages.</li> </ul>	<ul style="list-style-type: none"> <li>● I can use technology safely and respectfully.</li> <li>● I can keep my personal login information safe.</li> <li>● I can keep my personal details private.</li> <li>● I can safely access the WWW.</li> <li>● I can report anything unusual on the WWW to an adult.</li> <li>● I can report suspicious activity or websites to an adult.</li> </ul>	

	<ul style="list-style-type: none"> <li>● I can explain the types of media that can be shared on the WWW.</li> <li>● I can describe where websites are stored when uploaded to the WWW.</li> <li>● I can describe how to access websites on the WWW.</li> <li>● I can explain what media can be found on websites.</li> <li>● I can recognise that I can add content to the WWW.</li> <li>● I can explain that internet services can be used to create content online.</li> <li>● I can explain that websites and their content are created by people.</li> <li>● I can suggest who owns the content on websites.</li> <li>● I can explain that there are rules to protect content.</li> <li>● I can explain that not everything on the World Wide Web is true.</li> <li>● I can explain why some information I find online may not be honest, accurate, or legal.</li> </ul>	<ul style="list-style-type: none"> <li>● I know that some information on the WWW can be harmful, offensive or illegal.</li> <li>● I know that there are rules to protect content on the WWW.</li> <li>● I can use the term 'fake news' and I can recognize fake news on the WWW.</li> </ul>	
<p><b>Autumn 2</b></p> <p><b>Link to further resources:</b></p> <p><a href="#">Creating media</a></p>	<ul style="list-style-type: none"> <li>● Select, use and combine a variety of software (including internet services) on a range of digital devices to design and</li> </ul>	<ul style="list-style-type: none"> <li>● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable</li> </ul>	

<p><i>Audio editing</i></p> <p><b>Hardware/Program: Podcast equipment</b></p> <p><b>Audacity</b></p>	<p>create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p>	<p>behaviour; identify a range of ways to report concerns about content and contact.</p>	
	<p><b>Key Skills/Knowledge</b></p>	<p><b>Key Skills/Knowledge</b></p>	<p><b>Key Skills/Knowledge</b></p>
	<ul style="list-style-type: none"> <li>● I can identify the input and output devices used to record and play sound.</li> <li>● I can use a computer to record audio.</li> <li>● I can explain that the person who records the sound can say who is allowed to use it.</li> <li>● I can re-record my voice to improve my recording.</li> <li>● I can inspect the soundwave view to know where to trim my recording.</li> <li>● I can discuss what sounds can be added to a podcast.</li> <li>● I can explain how sounds can be combined to make a podcast more engaging.</li> <li>● I can save my project so the different parts remain editable</li> <li>● I can plan appropriate content for a podcast.</li> <li>● I can record content following my plan.</li> <li>● I can review the quality of my recordings.</li> </ul>	<ul style="list-style-type: none"> <li>● I can use technology safely and respectfully.</li> <li>● I can keep my personal login information safe.</li> <li>● I can keep my personal details private.</li> <li>● I can safely access the WWW.</li> <li>● I can report anything unusual on the WWW to an adult.</li> <li>● I can report suspicious activity or websites to an adult.</li> <li>● I am developing an understanding of copyright laws.</li> <li>● I understand that there is ownership of content on the WWW.</li> </ul>	

	<ul style="list-style-type: none"> <li>I can improve my voice recordings.</li> </ul>		
<p><b>Spring 1</b></p> <p><b>Link to further resources:</b></p> <p><a href="#">Creating media</a> <i>Photo editing</i></p> <p><b>Programs:</b></p> <p><b>Google Photos</b></p> <p><b>Photopea</b></p>	<ul style="list-style-type: none"> <li>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> </ul>	<ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	
	<p><b>Key Skills/Knowledge</b></p>	<p><b>Key Skills/Knowledge</b></p>	<p><b>Key Skills/Knowledge</b></p>
	<ul style="list-style-type: none"> <li>I can identify changes that we can make to an image.</li> <li>I can explore how images can be changed in real life.</li> <li>I can explain the effect that editing can have on an image.</li> <li>I can explain what has changed in an edited image.</li> <li>I can change the composition of an image by selecting parts of it.</li> <li>I can consider why someone might want to change the composition of an image.</li> <li>I can talk about changes made to images.</li> <li>I can choose effects to make my image fit a scenario.</li> <li>I can explain why my choices fit a scenario.</li> </ul>	<ul style="list-style-type: none"> <li>I can use technology safely and respectfully.</li> <li>I can keep my personal login information safe.</li> <li>I can keep my personal details private.</li> <li>I can safely access the WWW.</li> <li>I can report anything unusual on the WWW to an adult.</li> <li>I can report suspicious activity or websites to an adult.</li> <li>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.</li> </ul>	

	<ul style="list-style-type: none"> <li>• I can identify how an image has been retouched.</li> <li>• I can give examples of positive and negative effects that retouching can have on an image.</li> <li>• I can choose appropriate tools to retouch an image.</li> <li>• I can sort images into 'fake' or 'real' and explain my choices.</li> <li>• I can combine parts of images to create new images.</li> <li>• I can talk about fake images around me.</li> <li>• I can consider the effect of adding other elements to my work.</li> <li>• I can compare the original image with my completed publication.</li> <li>• I can evaluate the impact of my publication on others through feedback.</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe ways in which people might make themselves look different online.</li> </ul>	
<p><b>Spring 2</b></p> <p><b>Link to further resources:</b></p> <p><a href="#">Data and information</a> <i>Data logging</i></p> <p><b>Programs/Hardware:</b></p> <p><b>Google Science Journal</b></p> <p><b>Data Loggers loan from ICT in</b></p>	<ul style="list-style-type: none"> <li>• Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> </ul>	<ul style="list-style-type: none"> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	

Schools	Key Skills/Knowledge	Key Skills/Knowledge	Key Skills/Knowledge
	<ul style="list-style-type: none"> <li>● I can choose a data set to answer a given question.</li> <li>● I can suggest questions that can be answered using a given data set.</li> <li>● I can identify data that can be gathered over time.</li> <li>● I can explain what data can be collected using sensors.</li> <li>● I can use data from a sensor to answer a given question.</li> <li>● I can identify that data from sensors can be recorded.</li> <li>● I can recognise that a data logger collects data at given points.</li> <li>● I can identify the intervals used to collect data.</li> <li>● I can talk about the data that I have captured.</li> <li>● I can view data at different levels of detail.</li> <li>● I can sort data to find information.</li> <li>● I can explain that there are different ways to view data.</li> <li>● I can propose a question that can be answered using logged data.</li> <li>● I can plan how to collect data using a data logger.</li> </ul>	<ul style="list-style-type: none"> <li>● I can use technology safely and respectfully.</li> <li>● I can operate a data logger.</li> <li>● I can use a data logging app on an iPad.</li> </ul>	

	<ul style="list-style-type: none"> <li>• I can use a data logger to collect data.</li> <li>• I can interpret data that has been collected using a data logger.</li> <li>• I can draw conclusions from the data that I have collected.</li> <li>• I can explain the benefits of using a data logger.</li> </ul>		
<p><b>Summer 1</b></p> <p><b>Link to further resources:</b></p> <p><a href="#">Programming A</a> <i>Repetition in shapes</i></p> <p><b>Program:</b></p> <p><b>Logo</b></p>		<ul style="list-style-type: none"> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>
	<b>Key Skills/Knowledge</b>	<b>Key Skills/Knowledge</b>	<b>Key Skills/Knowledge</b>
		<ul style="list-style-type: none"> <li>• I can use technology safely and respectfully.</li> </ul>	<ul style="list-style-type: none"> <li>• I can program a computer by typing commands.</li> </ul>

		<ul style="list-style-type: none"><li>● I can keep my personal login information safe.</li><li>● I can keep my personal details private.</li><li>● I can access Logo on a Chromebook.</li></ul>	<ul style="list-style-type: none"><li>● I can explain the effect of changing a value of a command.</li><li>● I can create a code snippet for a given purpose.</li><li>● I can use a template to draw what I want my program to do.</li><li>● I can write an algorithm to produce a given outcome.</li><li>● I can test my algorithm in a text-based language.</li><li>● I can identify repetition in everyday tasks.</li><li>● I can identify patterns in a sequence.</li><li>● I can use a count-controlled loop to produce a given outcome.</li><li>● I can identify the effect of changing the number of times a task is repeated.</li><li>● I can predict the outcome of a program containing a count-controlled loop.</li><li>● I can choose which values to change in a loop.</li><li>● I can identify 'chunks' of actions in the real world.</li><li>● I can use a procedure in a program.</li><li>● I can explain that a computer can repeatedly call a procedure.</li></ul>
--	--	---	--

			<ul style="list-style-type: none"> <li>• I can design a program that includes count-controlled loops.</li> <li>• I can make use of my design to write a program.</li> <li>• I can develop my program by debugging it.</li> </ul>
<p><b>Summer 2</b></p> <p><b>Link to further resources:</b></p> <p><a href="#">Programming B</a> <i>Repetition in games</i></p> <p><b>Program:</b></p> <p><b>Scratch 3.0</b></p>		<ul style="list-style-type: none"> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>
	<b>Key Skills/Knowledge</b>	<b>Key Skills/Knowledge</b>	<b>Key Skills/Knowledge</b>
		<ul style="list-style-type: none"> <li>• I can use technology safely and respectfully.</li> <li>• I can keep my personal login information safe.</li> </ul>	<ul style="list-style-type: none"> <li>• I can list an everyday task as a set of instructions including repetition.</li> <li>• I can predict the outcome of a snippet of code.</li> </ul>

		<ul style="list-style-type: none"><li>• I can keep my personal details private.</li><li>• I can access Scratch 3.0 on a Chromebook.</li></ul>	<ul style="list-style-type: none"><li>• I can modify a snippet of code to create a given outcome.</li><li>• I can modify loops to produce a given outcome.</li><li>• I can choose when to use a count-controlled and an infinite loop.</li><li>• I can recognise that some programming languages enable more than one process to be run at once.</li><li>• I can choose which action will be repeated for each object.</li><li>• I can explain what the outcome of the repeated action should be.</li><li>• I can evaluate the effectiveness of the repeated sequences used in my program.</li><li>• I can identify which parts of a loop can be changed.</li><li>• I can explain the effect of my changes.</li><li>• I can re-use existing code snippets on new sprites.</li><li>• I can evaluate the use of repetition in a project.</li><li>• I can select key parts of a given project to use in my own design.</li><li>• I can develop my own design explaining what my project will do.</li></ul>
--	--	---	---

			<ul style="list-style-type: none"><li>• I can refine the algorithm in my design.</li><li>• I can build a program that follows my design.</li><li>• I can evaluate the steps I followed when building my project.</li></ul>
--	--	--	--

<b>GDS Opportunities</b>	<ul style="list-style-type: none"><li>• Children use photo editing software to crop photographs and add effects.</li><li>• Children copy and paste the graph/bar chart and use it in a word processing document?</li><li>• Children use animation in presentations.</li></ul>
--------------------------	---