

Year 6 Computing Medium Term Planning

Year 6	Information Technology	Digital Literacy/e-Safety	Computer Science
<p style="text-align: center;">Autumn 1</p> <p>Link to further resources:</p> <p><u>Computing systems and networks</u> <i>Communication</i></p> <p>Apps/Activities: The Internet</p> <p>Unplugged Activities</p>	<ul style="list-style-type: none"> ● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ● 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. 	<ul style="list-style-type: none"> ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	
	Key Knowledge/Skills	Key Knowledge/Skills	Key Knowledge/Skills
	<ul style="list-style-type: none"> ● I can complete a web search to find specific information. ● I can refine my search. ● I can compare results from different search engines. ● I can explain why we need tools to find things online. ● I can recognise the role of web crawlers in creating an index ● I can relate a search term to the search engine's index. 	<ul style="list-style-type: none"> ● I can use appropriate search terms safely on an appropriate search engine. ● I can evaluate results from search engines for relevance. ● I understand that not everything I see or read on the internet is true. ● I can use technology safely and responsibly. ● I can log onto different apps, devices and websites by using specific login information. 	

- I can explain that search results are ordered.
- I can explain that a search engine follows rules to rank relevant pages.
- I can suggest some of the criteria that a search engine checks to decide on the order of results.
- I can describe some of the ways that search results can be influenced.
- I can recognise some of the limitations of search engines.
- I can explain how search engines make money.
- I can explain the different ways in which people communicate.
- I can identify that there are a variety of ways of communicating over the internet.
- I can choose methods of communication to suit particular purposes.
- I can compare different methods of communicating on the internet.
- I can decide when I should and should not share.

- I can keep my private and personal information safe.
- I can report any unusual or suspicious activity to an adult.

	<ul style="list-style-type: none"> I can explain that communication on the internet may not be private. 		
<p>Autumn 2</p> <p>Link to further resources:</p> <p>Creating media <i>3D Modelling</i></p> <p>Program: Tinkercad</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	
	<p>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>
	<ul style="list-style-type: none"> I can add 3D shapes to a project. I can view 3D shapes from different perspectives. I can move 3D shapes relative to one another. I can resize an object in three dimensions. I can lift/lower 3D objects. I can recolour a 3D object. I can rotate objects in three dimensions. I can duplicate 3D objects. I can group 3D objects. I can accurately size 3D objects. 	<ul style="list-style-type: none"> I can use technology safely and responsibly. I can log onto different apps, devices and websites by using specific login information. I can keep my private and personal information safe. I can report any unusual or suspicious activity to an adult. 	

	<ul style="list-style-type: none"> • I can show that placeholders can create holes in 3D objects. • I can combine a number of 3D objects. • I can analyse a 3D model. • I can choose objects to use in a 3D model. • I can combine objects in a design. • I can construct a 3D model based on a design. • I can explain how my 3D model could be improved. • I can modify my 3D model to improve it. 		
<p>Spring 1</p> <p>Link to further resources:</p> <p>Creating media <i>Web page creation</i></p> <p>App: Google Sites</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	
	<p>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>
	<ul style="list-style-type: none"> • I can explore a website. • I can discuss the different types of media used on websites. • I know that websites are written in HTML. 	<ul style="list-style-type: none"> • I can use technology safely and responsibly. 	

	<ul style="list-style-type: none"> • I can recognise the common features of a web page. • I can suggest media to include on my page. • I can draw a web page layout that suits my purpose. • I can say why I should use copyright-free images. • I can find copyright-free images. • I can describe what is meant by the term 'fair use'. • 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. • I can explain what a navigation path is. • I can describe why navigation paths are useful. • I can make multiple web pages and link them using hyperlinks. • I can explain the implication of linking to content owned by others. • I can create hyperlinks to link to other people's work. • I can evaluate the user experience of a website. 	<ul style="list-style-type: none"> • I can log onto different apps, devices and websites by using specific login information. • I can keep my private and personal information safe. • I can report any unusual or suspicious activity to an adult. • I can say why I should use copyright-free images. • I can find copyright-free images. • I can describe what is meant by the term 'fair use'. • I understand that the content that I share can be shared either: <ul style="list-style-type: none"> ○ Within my network. ○ On the internet. • I can use a search engine to find appropriate websites/pages to link to my own website. • I can explain the implication of linking to content owned by others. • I can create hyperlinks to link to other people's work. 	
<p>Spring 2</p> <p>Link to further resources:</p>	<ul style="list-style-type: none"> • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and 	<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable 	

<p><u>Data and information</u> <i>Spreadsheets</i></p> <p>Apps:</p> <p>Google Sheets</p> <p>Google Maps</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>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>	<p>Key Knowledge/Skills</p>
	<ul style="list-style-type: none"> ● I can collect data. ● I can suggest how to structure my data. ● I can enter data into a spreadsheet. ● I can explain what an item of data is. ● I can choose an appropriate format for a cell. ● I can apply an appropriate format to a cell. ● I can explain which data types can be used in calculations. ● I can construct a formula in a spreadsheet. ● I can identify that changing inputs changes outputs. ● I can calculate data using different operations. ● I can create a formula which includes a range of cells. ● I can apply a formula to multiple cells by duplicating it. 	<ul style="list-style-type: none"> ● I can use technology safely and responsibly. ● I can log onto different apps, devices and websites by using specific login information. ● I can keep my private and personal information safe. ● I can report any unusual or suspicious activity to an adult. ● I know not to use sensitive, personal or private data as part of my spreadsheet. 	

	<ul style="list-style-type: none"> • I can use a spreadsheet to answer questions. • I can explain why data should be organised. • I can apply a formula to calculate the data I need to answer questions. • I can produce a chart. • I can use a chart to show the answer to a question. • I can suggest when to use a table or chart. • 		
<p>Summer 1</p> <p>Link to further resources:</p> <p>Programming A <i>Variables in games</i></p> <p>Apps/Programs:</p> <p>Scratch 3.0</p> <p>Hour of Code</p>		<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<ul style="list-style-type: none"> • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

	Key Knowledge/Skills	Key Knowledge/Skills	Key Knowledge/Skills
		<ul style="list-style-type: none"> ● I can use technology safely and responsibly. ● I can log onto different apps, devices and websites by using specific login information. ● I can keep my private and personal information safe. ● I can report any unusual or suspicious activity to an adult. 	<ul style="list-style-type: none"> ● I can identify examples of information that is variable. ● I can explain that the way a variable changes can be defined. ● I can identify that variables can hold numbers or letters. ● I can identify a program variable as a placeholder in memory for a single value. ● I can explain that a variable has a name and a value. ● I can recognise that the value of a variable can be changed. ● I can decide where in a program to change a variable. ● I can make use of an event in a program to set a variable. ● I can recognise that the value of a variable can be used by a program. ● I can choose the artwork for my project. ● I can create algorithms for my project. ● I can explain my design choices. ● I can create the artwork for my project. ● I can choose a name that identifies the role of a variable.

			<ul style="list-style-type: none"> • I can test the code that I have written. • I can identify ways that my game could be improved. • I can use variables to extend my game. • I can share my game with others.
<p>Summer 2</p> <p>Link to further resources:</p> <p>Programming B <i>Sensing</i></p> <p>Micro:bit (loan)</p> <p>Micro:bit simulator BBC Microbit Emulator</p>		<ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<ul style="list-style-type: none"> • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
	Key Knowledge/Skills	Key Knowledge/Skills	Key Knowledge/Skills
		<ul style="list-style-type: none"> • I can use technology safely and responsibly. 	<ul style="list-style-type: none"> • I can apply my knowledge of programming to a new environment.

		<ul style="list-style-type: none">● I can log onto different apps, devices and websites by using specific login information.● I can keep my private and personal information safe.● I can report any unusual or suspicious activity to an adult.	<ul style="list-style-type: none">● I can test my program on an emulator.● I can transfer my program to a controllable device/emulator.● I can identify examples of conditions in the real world.● I can use a variable in an if, then, else statement to select the flow of a program.● I can determine the flow of a program using selection.● I can use a condition to change a variable.● I can experiment with different physical inputs.● I can explain that checking a variable doesn't change its value.● I can use an operand (e.g. <=>) in an if, then statement.● I can explain the importance of the order of conditions in else, if statements.● I can modify a program to achieve a different outcome.● I can decide what variables to include in a project.● I can design the algorithm for my project.● I can design the program flow for my project.
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GDS Opportunities	<ul style="list-style-type: none">• Children incorporate graphics where appropriate, using the most effective text wrapping formats.• Children conduct a video chat with more than one person at a time.• Children create a video to share e-Safety rules and good rules to follow when using technology.• Children compare the information provided on two tabbed websites looking for bias and perspective.
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