Computing Long Term Plan- Year Six - (Teach Computing)

Year Group	Terms	Unit Name	Lesson	Learning Objectives	Success Criteria	National Curriculum Links							Teach Computing Taxonomy										Education for a Connected World
						2.1	2.2	2.3	2.4	2.5	2.6	2.7	AL	CM	CS	DD	DI	ET	IT	NW	PG	SS	
Year 6	Autumn 1	Communication	1	To identify how to use a search engine	- I can compare results from different search engines - I can complete a web search to find specific information - I can refine my search																		- Managing online information - Online reputation
			2	To describe how search engines select results	- 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																		- Managing online information - Online reputation
			3	To explain how search results are ranked	- I can explain that a search engine follows rules to rank relevant pages - I can explain that search results are ordered - I can suggest some of the criteria that a search engine checks to decide on the order of results																	- Managing online information - Online reputation
			4	To recognise why the order of results is important, and to whom	- I can describe some of the ways that search results can be influenced - I can explain how search engines make money - I can recognise some of the limitations of search engines																	- Managing online information - Online reputation
			5	To recognise how we communicate using technology	- I can choose methods of communication to suit particular purposes - 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																	- Managing online information - Online reputation
			6	To evaluate different methods of online communication	- I can compare different methods of communicating on the internet - I can decide when I should and should not share - I can explain that communication on the internet may not be private																	- Managing online information - Online reputation
	Autumn 2	Web page creation	1	To review an existing website and consider its structure	- I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML																		- Copyright and ownership - Online relationships
			2	To plan the features of a web page	- I can draw a web page layout that suits my purpose - I can recognise the common features of a web page - I can suggest media to include on my page																		- Copyright and ownership - Online relationships
			3	To consider the ownership and use of images (copyright)	- I can describe what is meant by the term 'fair use' - I can find copyright-free images - I can say why I should use copyright-free images																		- Copyright and ownership - Online relationships
			4	To recognise the need to preview pages	- I can add content to my own web page - I can evaluate what my web page looks like on different devices and suggest/make edits - I can preview what my web page looks like																		- Copyright and ownership - Online relationships
			5	To outline the need for a navigation path	- I can describe why navigation paths are useful - I can explain what a navigation path is - I can make multiple web pages and link them using hyperlinks																		- Copyright and ownership - Online relationships
			6	To recognise the implications of linking to content owned by other people	- I can create hyperlinks to link to other peoples work - I can evaluate the user experience of a website - I can explain the implication of linking to content owned by others																		- Copyright and ownership - Online relationships
	Spring 1	Variables in games	1	To define a 'variable' as something that is changeable	- I can explain that the way that a variable changes can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters																		
			2	To explain why a variable is used in a program	- I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed																		
			3	To choose how to improve a game by using variables	- 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																		
			4	To design a project that builds on a given example	- I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices																		
			5	To use my design to create a project	- I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have written																		
			6	To evaluate my project	- I can extend my game further using more variables - I can identify ways that my game could be improved - I can share my game with others																		
	Spring 2	Introduction to spreadsheets	1	To identify questions which can be answered using data	- I can answer questions from an existing data set - I can ask simple relevant questions which can be answered using data - I can explain the relevance of data headings																		
			2	To explain that objects can be described using data	- I can apply an appropriate number format to a cell - I can build a data set in a spreadsheet application - I can explain what an item of data is																		
			3	To explain that formula can be used to produce calculated data	- I can construct a formula in a spreadsheet - I can explain the relevance of a cell's data type - I can identify that changing inputs changes outputs																		
			4	To apply formulas to data, including duplicating	- I can apply a formula to multiple cells by duplicating it - I can create a formula which includes a range of cells - I can recognise that data can be calculated using different operations																		
			5	To create a spreadsheet to plan an event	- I can apply a formula to calculate the data I need to answer questions - I can explain why data should be organised - I can use a spreadsheet to answer questions																		
			6	To choose suitable ways to present data	- I can produce a graph - I can suggest when to use a table or graph - I can use a graph to show the answer to questions																		
	Summer 1	3D Modelling	1	To use a computer to create and manipulate three-dimensional (3D) digital objects	- I can discuss the similarities and differences between 2D and 3D shapes - I can explain why we might represent 3D objects on a computer - I can select, move, and delete a digital 3D shape																		- Privacy and security
			2	To compare working digitally with 2D and 3D graphics	- I can change the colour of a 3D object - I can identify how graphical objects can be modified - I can resize a 3D object																		- Privacy and security
			3	To construct a digital 3D model of a physical object	- I can position 3D objects in relation to each other - I can rotate a 3D object - I can select and duplicate multiple 3D objects																		- Privacy and security
			4	To identify that physical objects can be broken down into a collection of 3D shapes	- I can create digital 3D objects of an appropriate size - I can group a digital 3D shape and a placeholder to create a hole in an object - I can identify the 3D shapes needed to create a model of a real-world object																		- Privacy and security
			5	To design a digital model by combining 3D objects	- I can choose which 3D objects I need to construct my model - I can modify multiple 3D objects - I can plan my 3D model																		- Privacy and security
			6	To develop and improve a digital 3D model	- I can decide how my model can be improved - I can evaluate my model against a given criterion - I can modify my model to improve it																		- Privacy and security
	Summer 2	Sensing	1	To create a program to run on a controllable device	- I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device																		
			2	To explain that selection can control the flow of a program	- I can determine the flow of a program using selection - 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																		
			3	To update a variable with a user input	- I can experiment with different physical inputs - I can explain that if you read a variable, the value remains - I can use a condition to change a variable																		
			4	To use an conditional statement to compare a variable to a value	- 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 use an operand (e.g. <>) in an if... then... statement																		
			5	To design a project that uses inputs and outputs on a controllable device	- 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																		
			6	To develop a program to use inputs and outputs on a controllable device	- I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs																		

Teach Computing Taxonomy		
Abbreviation	Strand	Description
NW	Networks	Understand how networks can be used to retrieve and share information, and how they come
CM	Creating Media	Select and create a range of media including text, images, sounds, and video
DI	Data & Information	Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
DD	Design & Development	Understand the activities involved in planning, creating, and evaluating computing artefacts
CS	Computing Systems	Understand what a computer is, and how its constituent parts function together as a whole
IT	Impact of Technology	Understand how individuals, systems, and society as a whole interact with computer systems
AL	Algorithms	Be able to comprehend, design, create, and evaluate algorithms
PG	Programming	Create software to allow computers to solve problems
ET	Effective Use of tools	Use software tools to support computing work
SS	Safety & Security	Understand risks when using technology, and how to protect individuals and systems