

Cheadle Primary – the school at the heart of the village, free to flourish, ready to learn and succeed. Progression of Skills and Knowledge: COMPUTING Year 6						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 and 2	
Topic	World War Two		Mountains	South America-Brazil	Britain Since 1066-Focus on Battles	
National Curriculum Learning Intentions	1 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 3 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 4 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 5 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 6 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 7 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact					
NC LINKS	1,4,5,6	5,6,7	1,2,3,6,7	6	6,7	1,2,3,6
Computing Units	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Computing Topics	Internet Communication	Webpage creation	Variables in games	Introduction to spreadsheets	3D modelling	Sensing
Key Knowledge	Recognising how the WWW can be used to communicate and be searched to find information	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Exploring variables when designing and coding a game.	Answering questions by using spreadsheets to organise and calculate data	Planning, developing, and evaluating 3D computer models of physical objects	Designing and coding a project that captures inputs from a physical device.
Key Skills	complete a web search to find specific information refine my search explain why we need tools to find things online explain that a search engine follows rules to rank relevant pages explain that search results are ordered explain how search engines make money choose methods of communication to suit particular purposes explain the different ways in which people communicate identify that there are a variety of ways of communicating over the internet" decide when I should and should not share explain that communication on the internet may not be private	know that websites are written in HTML recognise the common features of a web page suggest media to include on my page describe what is meant by the term 'fair use' find copyright-free images add content to my own web page evaluate what my web page looks like on different devices and suggest/make edits preview what my web page looks like" make multiple web pages and link them using hyperlinks create hyperlinks to link to other people's work	identify examples of information that is variable recognise that the value of a variable can be changed make use of an event in a program to set a variable choose the artwork for my project create algorithms for my project explain my design choices test the code that I have written identify ways that my game could be improved share my game with others	answer questions from an existing data set explain the relevance of data headings build a data set in a spreadsheet application construct a formula in a spreadsheet apply a formula to multiple cells by duplicating it apply a formula to calculate the data I need to answer questions explain why data should be organised produce a graph suggest when to use a table or graph use a graph to show the answer to questions	discuss the similarities and differences between 2D and 3D shapes explain why we might represent 3D objects on a computer select, move, and delete a digital 3D shape resize a 3D object select and duplicate multiple 3D objects" create digital 3D objects of an appropriate size identify the 3D shapes needed to create a model of a real-world object choose which 3D objects I need to construct my model I can plan my 3D model modify my model to improve it"	test my program on an emulator transfer my program to a controllable device use a variable in an if, then, else statement to select the flow of a program experiment with different physical inputs decide what variables to include in a project design the algorithm for my project design the program flow for my project
Learning Intentions	To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication	To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model	To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition
Resources		Google Sites	Scratch	Google Sheets	Tinkercad	micro:bit and Microsoft MakeCode
Cross Curricular Links	Education for a Connected World links	English Education for a Connected World links	Maths Education for a Connected World links	Maths Education for a Connected World links	Art, DT, Maths Education for a Connected World links	
Progression	This unit progresses students' knowledge and understanding of computing systems and online collaborative working.	This unit progresses students' knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.	This unit builds on prior experience of programming in Scratch. Specifically, they should be familiar with the programming constructs of sequence, repetition, and selection.	This unit progresses students' knowledge and understanding of data, and teaches them how to organise and modify data within spreadsheets.	This unit progresses students' knowledge and understanding of creating 3D graphics using a computer. Prior to undertaking this unit, learners should have worked with 2D graphics applications.	This unit builds on prior experience of sequence, repetition and selection independently within programming.