Computing Year 6 Overview

		Autumn	Spring	Summer
Year 6	**Computing**	**Year 6 NC objectives**	**Year 6 NC objectives**	**Year 6 NC objectives**
		• Design, write and debug programs that accomplish specific goals • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • 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. • Select, use and combine a variety of software	• 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 • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • 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.	• 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. • 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.
		Year 6 Key Learning	**Year 6 Key Learning**	**Year 6 Key Learning**

		Computing systems and networks
		• To understand the importance of having a secure password and what "brute force hacking" is.
		• To know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2.
		• To know about some of the historical figures that contributed to technological advances in computing.
		• To understand what techniques are required to create a presentation using appropriate software.
		
		Programming 1
		• To know that there are text-based programming languages such as Logo and Python.
		• To know that nested loops are loops inside of loops.
		• To understand the use of random numbers and remix Python code.
		
		Online Safety
		  • To describe online issues that give us negative feelings and know how to get help.
			Data handling
			  • To identify how barcodes and QR codes work.
			  • To know how infrared waves, transmit data
			• To recognise how RFID is used.
			
			Creating media
			• To record, edit and add sound effects to a radio play.
			• To understand how computers have changed and the impact this has had on the modern world.
			
			Online Safety
			  • To describe online issues that give us negative feelings and know how to get help.
			  • To know how to create a positive online reputation.
			  • To describe how to capture bullying content as evidence.
				Data handling
				• To know that data can become corrupted within a network but this is less likely to happen if it is sent in 'packets'.
				• To know that devices or that are not updated are most vulnerable to hackers.
				• To know the difference between mobile data and WiFi.
				
				Skills showcase – <mark>scratch/MicroBit</mark>
				• To use CAD software to design a product.
				• To create a website
				• To create a video advert
				
				Online Safety
				  • To manage personal passwords effectively.
				  • To be aware of strategies that help protect people online.

Vocabulary		Acrostic code, brute force hacking, Caesar cipher, cipher, chip and pin, indentation, loop, python commands	Barcode, Boolean, brand, commuter, encrypt, infrared, RFID, background noise, byte, CPU, FX, gigabyte, kilobyte, graphics	Corrupted, GPS, BIG data, Bluetooth packets, CAD