Year 6	Overview	Knowledge	Vocabulary	Cross-curricular links
Bletchley Park 1 & 2 (10 lessons) Children learn about the history of Bletchley Park, including: key historical figures, how the first modern computers were created at as part of a WWII code breaking team and consider how computers have evolved over time. They then go on to investigate secret codes and how they are created, exploring 'brute force' hacking and learn how to make passwords more secure Go to unit: • BP1 • BP2	Digital Literacy and Online Safety Understanding the importance of secure passwords and using searching and word processing skills to create a presentation. Computational Thinking Using programming software to understand hacking, relating this to computer cracking codes in WWII.	Demographic and amount of workers, The Colossus, encrypted messages, date shift cypher, first electronic programmable computer	• acrostic code • brute force hacking • Caesar cipher • cipher • encrypt • invention • Nth letter cipher • password • pigpen cipher • technological advancement • trial and error	History Maths
	Digital Literacy and Online Safety Editing sound recordings for specific purpose. Computers and Hardware Learning about the history of computers and how they evolved over time.	Y Service locations – British wireless intercept stations. Operators tuning in to enemy messages. Memory sizes – KB, MB, GB, TB	• background noise • byte • computer • CPU • memory storage • mouse • OS • radio play • RAM • ROM • sound effects • touch screen • trackpad	English
Intro to Python **(5 lessons)** Building on their knowledge of coding from previous years, children are introduced to the text-based programming language Python, which is the language behind many apps and programs, such as Dropbox Go to unit	Computational Thinking Understanding that websites can be altered by exploring the code beneath the site. Designing, writing and debugging programs that accomplish specific goals Solving problems by decomposing them into smaller parts.	Python code – indentation, variable, loop Teaches computers to think for themselves - AI Algorithm – making a cup of tea	• algorithm • code (computer) • computer command • decompose • import • loop • nested loop • random numbers • remix • script libraries • variable	Art and design Maths

Year 6 .continued	Overview	Knowledge	Vocabulary	Cross-curricular links
Big Data 1 **(5 lessons)** Children learn how data is collected and stored by exploring barcodes, QR codes and RFID chips, and investigate how collecting big data can be used to help people in a variety of different scenarios Go to unit	Digital Literacy and Online Safety Understanding how learning can be applied to a real world context. Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data. Computers and Hardware Understanding that computer networks provide multiple services Understanding how barcodes and QR codes work.	Infrared light, barcodes – how they work and their uses	• barcode • boolean • brand • commuter • contactless • data • data privacy • encrypt • infrared waves • NFC • QR code • radio waves • RFID • signal • systems *or* data • analyst • transmission	Science
Big Data 2 **(5 lessons)** Children learn the difference between mobile data and WiFi and how data is transferred and use their understanding of big data to design their own smart school Go to unit	Digital Literacy and Online Safety Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data.	Wireless data transfer – barcodes, QR codes, NFC, Bluetooth, RFID What 100MB looks like – real life examples (e.g. one 30 minute TV show)	• big data • bluetooth • corrupt data • digital revolution • GPS • infrared waves • IoT • QR code • SIM • computer simulation • smart school/city	
Skills showcase **(5 lessons)** Reflecting on and showcasing their computing skills, pupils create an entire project around a specific theme Go to unit	Digital Literacy and Online Safety Showcasing their digital literacy skills. Computational Thinking Demonstrating their computational thinking skills by designing and debugging programs, using different inputs and outputs. Computers and Hardware Understanding how search engines work and knowing how to use them safely and effectively.	Extended vocabulary for this unit: • adapt • advertisement • algorithm • bug • CAD • computer code • code (verb) • design • edit • electronic components • image rights • image,	• input • information • invention • loop • output • photo • program • repetition • screenshot • selection (programming) • sequence • variable • WWW	

Year 6 .continued	Overview	Knowledge	Vocabulary	Cross-curricular links
Online safety **(6 lessons)** Learning about the impact and consequences of sharing information online; exploring how to develop a positive online reputation that will benefit the children in the long term; capturing evidence techniques and methods to combat online bullying Go to unit	Digital Literacy and Online Safety Learning about online reputations and how to go about creating a positive one Being aware of the threats that face us online such as scammers and phishing emails and how to identify them	Know the steps to take if you witness online bullying How to capture a screen grab on various devices	• anonymity • anti-virus software • digital footprint • digital personality • malware • online reputation • peer-pressure • permission • phishing • privacy settings • report • scammers • screengrab • selfie • software update • two-factor authentications	RSE