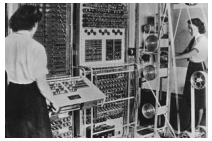
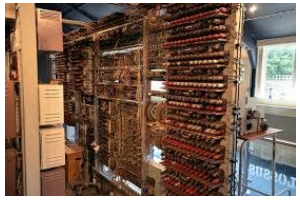
Medium term Plan for Computing		
Year 4- Computer systems and Networks- Autumn 1		
 **Blet chley Park and the history of computers** 		**Hook:** Children will watch 2 videos, the first will show children how computers were used in World War 2, and how this connects to everyday problem solving today. The second video will look at the future of technology and what role computers may need to play.
Topic Outcome: Children will explore code breaking at Bletchley Park, historical figures in computing, the evolution of computers, designing a computer of the future and creating an audio advert		**Topic Reflection:** Children will collect, present their researched information in the form of a presentation. The children will evaluate their peers work, providing constructive feedback.
	Statutory requirements:	**Vocabulary**
KS1 Statutory Requirements • Recognise common uses of information technology beyond school. • Use technology safely and respectfully. • I know the main components that make up a computer	**KS2 Statutory Requirements** • Understand computer networks including the internet. • Understand the opportunities networks offer, such as communication and collaboration. • Use search technologies effectively, appreciate how results are selected and ranked. • I know the main components that make up a network.	**Tier 1:** Password, invention, scrambled, secret, script, secure, trial and error, technological advancement, discovery, combination, audio advert **Tier 2:** Brute force hacking, chip and PIN system, cipher **Tier 3:** date shift cipher, acrostic code, Caesar cipher, pigpen cipher, Nth letter cipher  

Previous Skills	**Previous Knowledge**	**Previous Understanding**
Children can recognise and use a range of input devices eg. Mouse, keyboard, microphone, touchscreen. Children know how to use word processing software.	Children know that we can break tasks down into smaller bits. Children know that 'log in' or 'log out' means to start or end a connection with a computer. Children know that passwords are important for	Children know how to log in and understand how to navigate a computer more purposely. Children understand how to drag, drop, click and control the cursor using a mouse.

Children can use a search engine to find information using keyword searches. Children know how to copy text and images into another document. Children remember an individual password.	security and to keep us safe. Children know that all computers have 'inputs' and 'outputs'. Children know what copyright is. Children know	Children know that technology follows instructions and can recognise different types of technology. Children understand that not all information they find online is correct

	Concept	Learning Objective	Lesson Outcome	Success criteria	Vocabulary
Lesson 1	Secret codes	LO: To understand that there are many different types of secret code.	Children will explore a variety of different codes from simple Caesar ciphers to the Enigma code.	I can explain why codes might be valuable. I can identify some common secret codes. I can decipher some secret codes I can write a message using a secret code	Acrostic code, Caesar cipher, cipher, data shift cipher, Nth letter cipher, pigpen cipher, scrambled, secret
Lesson 2	Brute force hacking	LO: To understand the importance of having a secure code.	Children will learn about brute force hacking and the importance of secure passwords	I can describe what is meant by brute force hacking. I can understand why it is important to have a secure password. I can explain why a longer password is more secure than a short one.	Brute force hacking, chip and pin system, combination, password, secure, trial and error
Lesson 3	Computers of the past	LO: To recognise the importance of the history of computers and create	Children will research and present a presentation about technological advancements and their	I can explain the role of Bletchley Park during World War 2.	Discovery, invention, technological advancement

		a well-researched presentation.	impact on the modern world.	I can identify and describe the achievements of key figures in computing history. I can recognise and explain the evolution of computers and their impact on modern life. I can effectively shar research findings with a partner and the class	
Lesson 4	Future computer	LO: To design a computer of the future.	Children will design a computer of the future.	I can recognise the components of a computer and why they are important. I can identify how computers have evolved over time I can use my understanding of historic computers to design a computer of the future.	CPU (central processing unit), GPU (graphics processing unit), hard drive, mouse, operating system, RAM (random access memory, ROM (read only memory), touch screen, trackpad
Lesson 5	Audio adverts	LO: To create an audio advert for future computer.	Children will write scripts and use an audio editor to record and edit adverts for future computers.	I can write a script for an audio advert I can use audio recording software to create a recording. I can provide constructive feedback on other people's recordings.	Audio advert, audio software, background noise, script.

Endpoints:	Knowledge: I know the importance of having a secure password and what brute force hacking is. I know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort. I know about some of the historical figures that contributed to technological advances in computing. I know what techniques are required to create a presentation. I know that sound clips can be recorded using sound recording software. I know that sound clips can be edited and trimmed. Skills: I can use past experiences to help solve new problems. I can write increasingly complex algorithms for a purpose. I can debug quickly and effectively to make a program more efficient. I can remix existing code to explore a problem. I can evaluate code to understand its purpose. I can use search and word processing skills to create a presentation. I can use search engines safely and effectively. I can use my understanding of historic computers to design a computer of the future. I can plan, record and edit an audio recording.