

## IT Scheme of Work 2023-24: YEAR 8

AUTUMN TERM 1: SEPT - OCT	AUTUMN TERM 2: OCT - DEC	SPRING TERM 1: JAN - FEB
<i>Spreadsheets</i>	<i>Emerging Technologies</i>	<i>Cyber Security/Threats to data/storing and collecting data.</i>
<p><b>AO: to use formulas and functions in a spreadsheet.</b></p> <p>Pupils will explore modelling data using spreadsheet software.</p> <p>Topics:</p> <ul style="list-style-type: none"> <li>• Use the autofill tool to replicate cell data.</li> <li>• Analyse data.</li> <li>• Create appropriate charts in a spreadsheet.</li> <li>• Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet.</li> <li>• Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet.</li> <li>• Use conditional formatting in a spreadsheet.</li> <li>• Use absolute referencing in a spreadsheet.</li> <li>• Create a Macro in a spreadsheet.</li> </ul>	<p><b>AO: to explore how technology has change how people live their lives.</b></p> <p>Pupils will explore how people lived are affected by emerging technologies and understand how technology has change how people live. Pupils will research emerging technologies and how they relate to social, legal, and ethical issues of computer science.</p> <p>Topics:</p> <ul style="list-style-type: none"> <li>• To identify technology in the smart home.</li> <li>• To identify technology in transport.</li> <li>• To identify technology in entertainment</li> <li>• To research how technology is used in fashion.</li> <li>• To research the developments in AI and AR</li> <li>• To construct an understanding of biotechnology and medicine.</li> <li>• Explain how biometrics is used to solve security issues.</li> <li>• To understand how new technologies can affect our lives in both good and bad ways.</li> <li>• To be able to compare the use of drones</li> </ul>	<p><b>AO: to examine ethical, legal and environmental issues connected to cybersecurity.</b></p> <p>Pupils will explore computer legislation connected to cybersecurity issues. Pupils will also explore the ethical and environmental issues connected to cybersecurity.</p> <p>Topics:</p> <ul style="list-style-type: none"> <li>• Describe what cyber security is.</li> <li>• Investigate key terms relating to cyber security.</li> <li>• Describe different types of social engineering.</li> <li>• Describe malicious code.</li> <li>• Describe and investigate ethical, legal, and environmental concerns.</li> <li>• Identify the key security features of cybersecurity.</li> <li>• Identify the motivations of hackers.</li> <li>• Identify what cryptography is.</li> <li>• Understand the development in AI.</li> <li>• Identify how data is displayed.</li> </ul>
SPRING TERM 2: FEB - MAR	SUMMER TERM 1: APR - MAY	SUMMER TERM 2: JUN - JUL
<i>Digital Communications</i>	<i>Internet of Everything</i>	<i>HCI in Everyday Life</i>
<p><b>AO: to identify the types of digital communication.</b></p> <p>Pupils will examine various types of digital communications and consider the advantages and disadvantages of each.</p>	<p><b>AO: to learn about the pillars of the internet of everything.</b></p> <p>Pupils will learn about how the IoE is used in different areas of everyday life. Pupils will learn about advantages, disadvantages and security risks of using the IoE.</p>	<p><b>AO: to explain the purpose of a Human Computer Interface.</b></p> <p>Pupils will learn the purpose of a Human Computer Interface and how HCI are used in banking, embedded systems, fitness, home appliances, retail and entertainment.</p>

<p>Topics:</p> <ul style="list-style-type: none"><li>• To identify types of digital communications.</li><li>• To consider different software solutions.</li><li>• To identify the advantages of each communication method.</li><li>• To identify the disadvantages of each communication method.</li></ul>	<p>Topics:</p> <ul style="list-style-type: none"><li>• To explain how the IoE is used for military and emergency services.</li><li>• To explain how the IoE is designed to be used: at home, and in business.</li><li>• To explain how the IoE is used for transport.</li></ul>	<p>Topics:</p> <ul style="list-style-type: none"><li>• To learn about different application areas.</li><li>• To explain HCI in areas such as banking, embedded systems and entertainment.</li><li>• To consider the advantages and disadvantages of each application area.</li><li>• To consider why different types of HCI are used.</li><li>• To identify the different sizes, of HCI.</li><li>• To identify different resources that an HCI relies on.</li><li>• To consider HCI software and hardware.</li><li>• To consider the advantages and disadvantages each method of interaction with HCI.</li></ul>
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