



How does this unit link to prior learning?

Students will have completed understanding computers in Y7, cyber security in Y8 and elements of python and creative design in Y9. The principles of computing architecture, hardware and software from previous Y10 topics also support this.

What will you be learning about?

In this unit students will learn how to develop an understanding of Computer Networks. Students will learn how to approach problems by breaking them down using specific methods. Students will also learn how to develop an algorithm as well as techniques used to search and sort data sets.

We will develop our learning each week by focusing on:

<p>1. The internet and wide area networks 1</p> <p>IP Address DNS (Domain name system) URL (Uniform resource locator)</p>	<p>RAG</p>	<p>7. Client-server and peer-to-peer networks 1</p> <p>Client Server File Server Web Server Email Server Peer to peer </p>	<p>RAG</p>
<p>2. The internet and wide area networks 2</p> <p>MAC addressing Wide Area Networks Circuit Switching Packet Switching</p>		<p>8. Client-server and peer-to-peer networks 2</p> <p>Hosting The cloud DNS File Transfer Protocol Bandwidth Number of devices connected Latency Errors in transmission Interference</p>	
<p>3. Local area networks 1</p> <p>LAN WAN Topologies Star Mesh</p>		<p>9. Standards, protocols and layers 1</p> <p>Network Standards Connectivity Cabling Ethernet Protocol (rule)</p>	
<p>4. Local area networks 2</p> <p>Routers Switches Network Interface Card Ethernet Transmission media</p>		<p>10 Standards, protocols and layers 2</p> <p>TCP/IP HTTP HTTPS FTP POP IMAP SMTP Layers Application Layer Transport Layer Internet Layer Link Layer</p>	
<p>5. Wireless networking</p> <p>Wi-Fi Wireless Access Point Hotspots Bluetooth</p>		<p>11. Assessment</p>	
<p>6. Encryption</p> <p>Encryption Plaintext Ciphertext Encryption key Encryption Algorithm Asymmetric encryption</p>		<p>12. Closing the Gap</p>	

Key vocabulary

URL	MAC	LAN	WAN	DNA	Star	Mesh	Router	Switch	NIC
WiFi	Bluetooth	Cipher	P2P	FTP	Ethernet	POP	IMAP	Latency	Bandwidth

How will this help you in the future?

<p>KS4</p> <p>This topic is followed by Network Security in Y11. Processes also linked to programming project</p>	<p>Beyond LHS</p> <p>A-Level and T-Level study in Computing. Careers in cyber security, IT consultancy and AI</p>
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