Curriculum Overview for Computer Science
Year 10

Half Term 4 **Networking**		Model reading Reading out loud Skim and Scan of source information Decoding terms Etymology of key terms
Substantive Knowledge: • Understand the difference between local and wide area networks • Understand what factors affect network performance • Understand the different network topologies and how they are used • Understand how wireless technology adds to a network • Understand the need for encryption • Understand the role of typical hardware used in a network • Understand how information is routed around a network • Understand what the Internet is • Understand what the purpose of an IP address is • Understand how DNS works • Understand the concept of the cloud • Understand how networking is divided into layers and why • Understand the use of standards and protocols in a network **Disciplinary Knowledge:** • Be able to identify the role of a device in a network • Be able to describe how information travels from a computer to another computer over the Internet • Be able to identify an IPv4 and IPv6 Address • Be able to identify what happens at different layers of networking		Network LAN – Local Area Network WAN – Wide Area Network Bandwidth Transmission Errors Latency Star Bus Mesh Peer-to-peer Client Server Hub Switch Router NIC – Network Interface Card Wired Wireless Ethernet WAP – Wireless Access Point Encryption MAC Address IP Address Internet Domain DNS – Domain Name Service Cloud Layers Application Layer Transmission Layer Internet Layer Data Layer Standard Protocol TCP/IP HTTP HTTPS

• Be able to perform troubleshooting techniques on a network to help identify where a problem exists • Be able to identify what protocol is being used for different tasks		FTP POP IMAP SMTP
		Formative assessment Knowledge checks Smart Revise Practice questions **Summative assessment** End of unit assessment
		Practice questions Revision tasks Research tasks