

Home-School Learning Collaboration – Computing



Topics in this cycle: Computer Networks	Taught: Summer 1	Year Group: 9
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<ul style="list-style-type: none"> • What is a Computer Network? Identify the different devices used in a network Explain what a computer network is. Identify problems that can arise in a network. Describe the benefit of a computer network. • What are the different types of networks? Identify the different types of networks. Explain how the different types of networks work. Describe the benefit of each type of network. • What are network topologies? Identify different network topologies. Explain the benefits and drawbacks of the different network topologies. Create different network topologies using different devices. • What is a wireless network? Explain how a wireless network works. Describe the advantages and disadvantages of wireless networks Explain how the creation of wireless networks have changed how we access technology. • Why is encryption used in a network? Explain what encryption is and how it works. Explain why encryption is used in networks. Create your own way of encrypting a message. • What is packet switching? Identify the devices used in packet switching. Explain how packet switching works. Describe the benefits of packet switching. 		<p>Notes/Information</p> <p>Star Networks https://www.bbc.co.uk/bitesize/guides/zr3yb82/revision/1</p> <p>Mesh Networks https://www.bbc.co.uk/bitesize/guides/zr3yb82/revision/2</p> <p>Wireless Networks https://www.bbc.co.uk/bitesize/guides/zr3yb82/revision/3</p> <p>Encryption https://www.bbc.co.uk/bitesize/guides/zr3yb82/revision/4</p> <p>Packet Switching https://www.bbc.co.uk/bitesize/guides/zr3yb82/revision/7</p> <p>Videos Computer Networks: Crash Course Computer Science #28 https://www.youtube.com/watch?v=3QhU9jd03a0</p>

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Key Vocabulary and Definitions To Be Learn		What Will The Assessment Look Like?
Network	A group of interconnected computers/devices.	<p>Extended writing – The benefits of wireless networks and an explanation of how packet switching works.</p> <p>End of Unit test: 35 minutes/25 marks</p> <ul style="list-style-type: none"> • Short answer questions • Extended writing • 3 marks for SPAG
Node	Any device connected to a network.	
Data	Units of information. In computing there can be different data types, including integers, characters, and Boolean. Data is often acted on by instructions.	
Packet switching	A method of communication across a network where a message is broken down into small pieces which are sent separately.	
Switch	A device for connecting computers and other network capable devices together to form a network.	
Encryption	Files that are encrypted have been altered using a secret code and are unreadable to unauthorised parties.	
Encrypt	Files that are encrypted have been altered using a secret code and are unreadable to unauthorised parties.	<p>Family Learning Opportunities</p> <p>With your family watch the 101 Computing video which will inform you of the different components needed to set up a network. You will then try to create a specific network design based on 3 different customer requirements.</p> <p>Use the online network design tool to create these designs using the relevant hardware and cables. https://www.101computing.net/network-design-tasks/</p> <p>Devise a quiz on the different elements of a network and test your family.</p>
Topology	The structure, or arrangement, of a network.	
Mesh topology	A network where each node is directly connected to all other nodes.	
Star topology	A network where each node is connected to a central switch.	
Transmissions	The sending of data from point A to point B.	
Wi-Fi	A method of connecting to the internet wirelessly using radio waves.	
Wireless Access Point (WAP)	A device that connects computers to a network using Wi-Fi.	