Kit’s Computing Lab: Understanding Networks

Learning objective: I can explain how devices connect to form a network and describe the role of key components.

About 15 minutes. Grown-up tip: Ask your child to show you the router in your home and discuss how many devices are connected to it at once.

Use this template to map out how a school or home network functions. Think of a network as a series of devices linked together to share data.

Worked Example: For 'Network Purpose', you might write: 'To allow tablets in the classroom to print documents to the office printer without using cables.'

Word bank: Server · Router · Client · Data · Wi-Fi · Switch · Packet · Bandwidth · Node · Internet

1. 1. Network Purpose: Briefly describe why we might need to create a network in a school or at home. (2 marks)

2. 2. Hardware Identification: Choose two pieces of hardware (e.g., router, switch, or server) and explain the specific job each one does in a network. (4 marks)

3. 3. Data Transmission: Describe what happens to a file when it is sent from one computer to another over a network. Use the term 'packet' in your explanation. (3 marks)

4. 4. Network Benefits: Give two advantages of using a networked system compared to using a single, disconnected computer. (2 marks)

5. 5. Security Thinking: Why is it important to have a password or firewall protecting a network? Explain the potential risk of an unprotected connection. (3 marks)

Extension challenge: Imagine you are designing a network for a local library. Draw a simple diagram showing how the librarian's computer, the public computers, and the printer would connect to a central router.

I did it! Name: _____ Date: _____

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