

Computing Assessment: Understanding Computer Networks

Learning objective: To demonstrate an understanding of how computer networks function, including the role of servers, clients, and the internet.

Read each question carefully. Use your knowledge of how data travels and how devices connect to complete the assessment. Work independently.

Kit the fox is helping the other BookFlik friends set up a digital library. He explains that a network is a group of computers connected together to share information. When Nova the owl wants to look up a star map, her computer sends a request across the network to a central computer that stores the information. Once the request is received, the information is sent back to her in tiny pieces, which are reassembled on her screen.

Word bank: Internet · Server · Client · Router · Packet · Network · Wireless · Data

1. Define the term 'network' in your own words. Why might a school need a network rather than having computers that are not connected? (3 marks)

2. In the passage, Kit mentions Nova's computer sends a request to a central computer. What is the technical name for this central computer, and what is the name for the device Nova is using? (2 marks)

3. Explain the role of a router in a home or school network. (3 marks)

4. Data is often sent across the internet in small 'packets'. Why is it safer and more efficient to send data in small packets rather than one large file? (4 marks)

5. Compare a 'wired' network connection to a 'wireless' (Wi-Fi) connection. Give one benefit of each. (4 marks)

6. Kit wants to set up a new network for the BookFlik library. Imagine you are Kit. Describe the steps you would take to ensure the network is secure and efficient for the other characters to use. Include how you would protect their shared files. (5 marks)

7. What is the difference between the 'Internet' and the 'World Wide Web'? (4 marks)

Draw: Draw a simple diagram showing a network with at least three 'client' devices connected to a central 'router' and a 'server'. Label each part clearly.



Extension challenge: Total: /25. Research task: Find out what an IP address is and explain why every device on a network needs a unique one.