

Year 5 Computing Assessment: Understanding Networks

Learning objective: To assess pupils' understanding of how computer networks function, including the role of hardware, the internet, and the transmission of data.

Read each question carefully. Use your knowledge of how devices communicate to provide clear and accurate answers. Ensure you use appropriate computing terminology.

Kit the fox has been helping the BookFlik team set up a new digital library system. Every device in the library is connected so that they can share resources, print documents, and access the global web. Kit explains that when we send a photo or a document, it is broken into tiny pieces called packets before travelling across the network to its destination.

Word bank: Server · Router · Client · Internet · Data packets · Wireless · Network · Protocol

1. Define what a 'computer network' is. Why might a school choose to have a network instead of using standalone computers? (2 marks)

2. Identify the primary function of a router within a home or school network. (2 marks)

3. Explain the difference between a 'client' and a 'server' in a network environment. (3 marks)

4. When data is sent across the internet, it is often broken down into 'data packets'. Explain why it is more efficient to send data in smaller packets rather than one large file. (3 marks)

5. Compare and contrast a wired connection (using an Ethernet cable) and a wireless connection (Wi-Fi). Give one benefit of each. (4 marks)

6. Kit needs to connect a new laptop to the library network. Describe the step-by-step process of how the laptop requests information from a server and how the server responds. (3 marks)

7. Extended Response: Imagine the entire school network suddenly stops working. Explain why this might happen and justify why having a 'backup' system is essential for maintaining productivity. Refer to servers and data in your answer. (5 marks)

Draw: Draw a diagram showing a simple network. Include a server, a router, and at least three client devices (such as a laptop, a tablet, and a printer). Use arrows to show how data flows between them.



Extension challenge: Greater Depth Challenge: 'What might happen if the rules (protocols) for how data packets are addressed were removed from the internet? Justify your answer by explaining the impact on data integrity and speed.' Total: /25