# Connected Worlds: Understanding Computer Networks

*Learning objective: I can explain how networks function and how data is shared between devices.*

*About 45 minutes. Grown-up tip: Discuss how your home Wi-Fi connects your phone, tablet, and TV to the internet.*

Read each question carefully. For longer answers, provide clear explanations. Example: 'A server is a powerful computer that provides services to other computers on a network, like storing files or hosting a website.'

Kit the fox is helping the village library set up a new network. The library has six computers, a printer, and a large server. All these devices are connected so that people in the village can access digital resources, share files, and print their work from any computer in the building. Kit explains that data travels across the network in small pieces called packets.

*Word bank: Internet · Server · Client · Router · Packet · Network · Protocol · Data*

**1. Define what a 'network' is in the context of computing. (2 marks) (2 marks)**

**2. What is the role of a router in a network? (2 marks) (2 marks)**

**3. Explain the difference between a client and a server. (3 marks) (3 marks)**

**4. When you send a photo to a friend, the data is broken into small pieces. What is the name of these pieces, and why do you think they are used instead of sending the whole file at once? (4 marks) (4 marks)**

**5. Compare the World Wide Web (WWW) with the Internet. Are they the same thing? Give a reason for your answer. (4 marks) (4 marks)**

**6. Kit wants to add a wireless access point to the library. Describe two benefits of having a wireless network compared to a wired one, and one potential drawback. (5 marks) (5 marks)**

**7. If the main server in the library breaks, what happens to the computers connected to it? Explain why. (5 marks) (5 marks)**

**Draw: A friendly, intelligent fox wearing a small blue waistcoat standing in a modern library pointing to a diagram of a star network topology on a whiteboard.**

*Extension challenge: Total: /25. Design a network for your school! Draw a diagram showing where the server, routers, and computers would go. Label each part and explain how the data travels from the library to the office. (5 bonus marks)*



**I did it!  Name: _____  Date: _____**

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