Grade 3 Computing Assessment: Understanding Networks with Kit the Fox

Learning objective: To demonstrate knowledge and understanding of how computers connect, share information, and communicate across networks.

Read each question carefully. Use the word bank to help you identify technical terms. Write your answers clearly in the space provided.

Kit the fox is an expert at building digital connections. Kit explains that a network is a group of two or more computers linked together to share resources. Whether it is sending a digital photograph to a friend or accessing an online library, information travels across the world in tiny pieces called packets. These packets move through routers, which act like traffic controllers, directing information to the correct destination.

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

1. 1. Using the word bank, define what a 'network' is in your own words. (2 marks) (2 marks)

2. 2. Kit uses a device to direct information to the right place. What is this device called, and what would happen if it stopped working? (3 marks) (3 marks)

3. 3. Explain the difference between a wired connection and a wireless connection. (2 marks) (2 marks)

4. 4. Why is it important for information to be broken into 'packets' when it travels across the Internet? (3 marks) (3 marks)

5. 5. Compare and contrast how a local school network might differ from the global Internet. (4 marks) (4 marks)

6. 6. A school decides to upgrade its network. If the server goes offline, explain why the children would be unable to access their saved digital files. (3 marks) (3 marks)

7. 7. Extended Writing Task: Imagine you are designing a network for a new library. Justify your choices for where to place routers and how to keep the connection secure for the users. (5 marks) (5 marks)

Draw: Draw a simple diagram showing a 'Network'. Include a central server, three computers, and a router. Use arrows to show the direction that 'data packets' might travel between them.

Extension challenge: Total: /25. Challenge: What might happen if a network became too large and had too many users connected at the same time? Explain the impact on data speed and connectivity.