

Kit's Forest Network Challenge

Learning objective: To understand how computer networks connect devices to share data, and to identify the roles of servers and clients.

Kit the Fox is helping the woodland animals set up a digital communication network. Look at the list of devices and roles below. Your task is to match each 'Device' to its correct 'Network Role' and explain why that device performs that function. Use your knowledge of how data travels between a server (the central hub) and clients (the individual devices).

Word bank: Server · Client · Network · Data · Connection · Router

1. The Forest Library Computer (which stores all the e-books for the animals): Is this a 'Server' or a 'Client'? Justify your answer based on its function. (2 marks)

2. Leo the Lion's Tablet (used to read the e-books): Is this a 'Server' or a 'Client'? Explain your reasoning. (2 marks)

3. If the Forest Library Computer breaks down, what might happen to the other devices on the network? Explain the impact on the users. (2 marks)

4. Compare and contrast a 'Server' and a 'Client'. How are their roles different when sharing information? (3 marks)

5. Why is a 'Router' an essential piece of hardware for the woodland animal network? Explain why the network would fail without it. (2 marks)

6. If you were designing a new network for a school, would you choose to have one powerful server or many small servers? Justify your decision. (3 marks)

Draw: Draw a diagram of a woodland network. Include one central 'Server' (the Library Tree) and at least three 'Client' devices (such as tablets or laptops used by animals) connected to it with lines representing the network cables or wireless signals.



Extension challenge: Imagine the woodland network has become very slow. Write a short 'technical report' for Kit the Fox suggesting three possible reasons why the data transfer speed might be decreasing, and propose one solution for each.