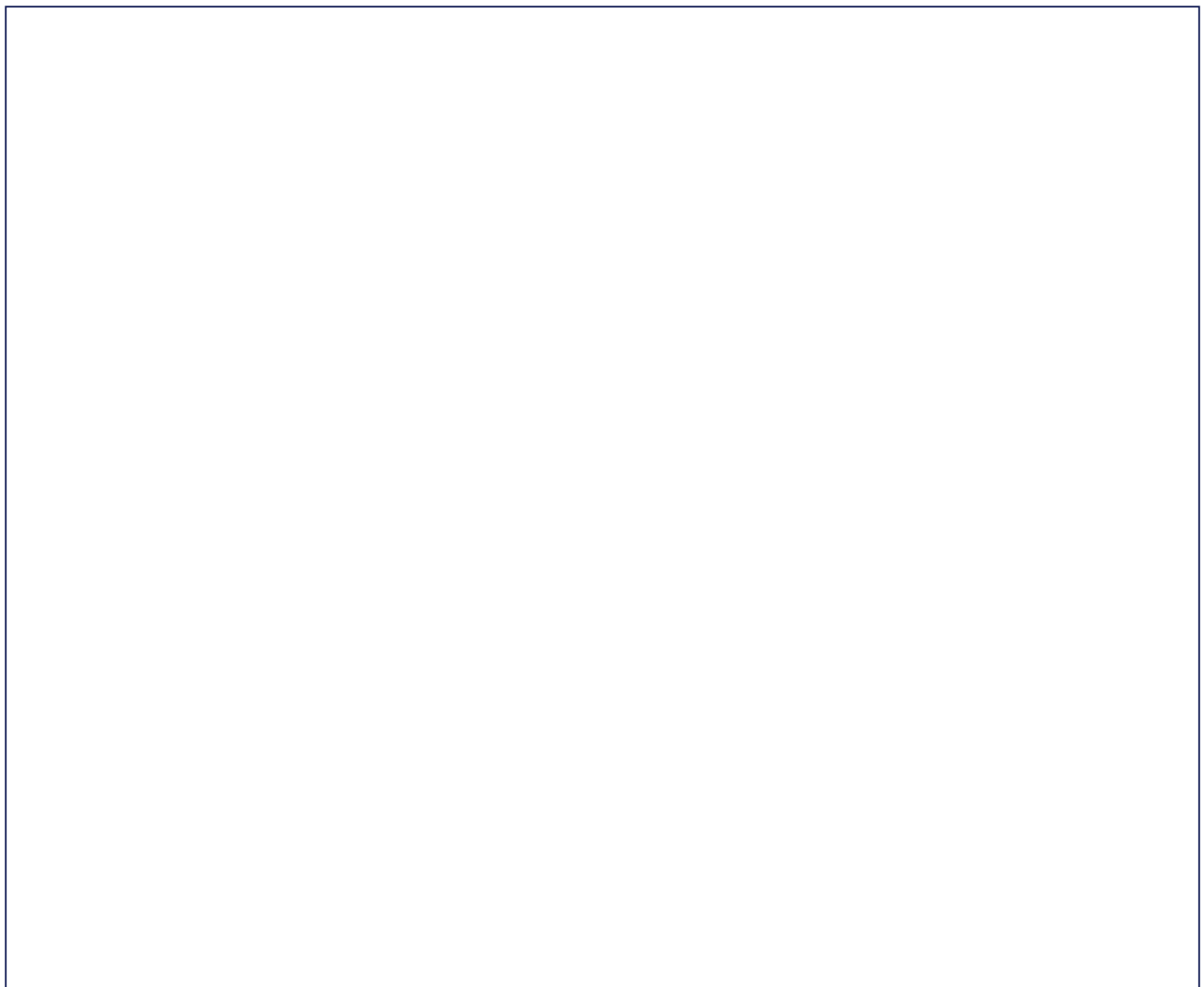


Kit's Network Architecture Challenge

Learning objective: To identify and illustrate the fundamental components of a computer network, including servers, clients, and transmission media.

Follow the drawing prompt below to construct your own digital network map. Once your diagram is complete, use the word bank to label the specific components that allow information to travel across the system.

Draw: Draw a clear, top-down diagram of a small office network. In the centre, draw a large 'Server' box. Surrounding it, draw four 'Client' devices (such as a laptop, a tablet, and two desktop computers). Use straight lines to represent ethernet cables connecting the clients to a central 'Switch'. Draw one 'Wireless Access Point' near the top of your page connected to the switch, and a 'Router' at the edge of your diagram showing the connection to the wider internet. Use a neat, technical style with clear labels.



Label words: Server · Client · Switch · Wireless Access Point · Router · Transmission Media

Steps:

1. Explain why a server is considered the 'brain' of a network. What might happen if the server loses power?
2. Compare and contrast a wired connection (cables) with a wireless connection. Which is more reliable and why?
3. Justify why a 'Switch' is necessary in a network containing more than two computers.

4. What might happen if a network did not have a router to manage the traffic between different networks?
5. Label your drawing to show the path a digital file takes when moving from the Server to a Client.
6. If you were designing a network for a large school, would you choose a star topology or a bus topology? Explain your reasoning.