

3. Student Activity

Student Activity: Exploring Networking Concepts

Welcome to the hands-on activity session on **Networking Concepts**! In this activity, you will explore the basics of networking through practical examples. This will help reinforce your understanding of the concepts discussed in the introduction. Let's get started!

1. Understanding Networks

Objective: Identify and describe different types of networks.

Activity Steps:

1. Identify Networks Around You:

- Look around your home or school and identify any networks you are connected to.
- Example 1: Your home Wi-Fi network connecting your smartphone, laptop, and smart TV.
- Example 2: The school network that connects computers in the computer lab.
- Example 3: A public Wi-Fi network at a local café.

2. Describe the Network:

- For each network you identified, describe its purpose and the devices connected to it.
- Example 1: Home Wi-Fi network for internet access and streaming.
- Example 2: School network for accessing educational resources.
- Example 3: Café Wi-Fi for customer internet access.

3. Discuss with Peers:

- Share your findings with a classmate and discuss the similarities and differences between the networks you identified.
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2. Importance and Applications of Networks

Objective: Understand the importance and applications of networks in daily life.

Activity Steps:

1. List Network Applications:

- Make a list of different applications of networks you encounter daily.
- Example 1: Using email to communicate with friends and family.
- Example 2: Streaming movies or music online.
- Example 3: Accessing cloud storage to save and retrieve files.

2. Discuss Resource Sharing:

- Identify examples of resource sharing in networks you use.
- Example 1: Sharing a printer in an office network.
- Example 2: Accessing shared files on a school network.
- Example 3: Using a shared internet connection at home.

3. Reflect on Communication:

- Think about how networks facilitate communication in your life.
 - Example 1: Video calls with family members in different locations.
 - Example 2: Instant messaging with friends.
 - Example 3: Participating in online classes or webinars.
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3. Types of Networks

Objective: Differentiate between various types of networks.

Activity Steps:

1. Classify Networks:

- Classify the networks you identified earlier into LAN, WAN, MAN, PAN, or SAN.
- Example 1: Home Wi-Fi network as a LAN.
- Example 2: The internet as a WAN.
- Example 3: Bluetooth connection between smartphone and laptop as a PAN.

2. Explore Network Types:

- Research and find real-world examples of each network type.
- Example 1: A university campus network as a MAN.
- Example 2: A corporate data center using a SAN.
- Example 3: A city-wide public Wi-Fi network as a MAN.

3. Create a Visual Map:

- Draw a simple map showing different types of networks and their connections.
- Include examples from your research and observations.

4. Basic Network Components

Objective: Identify and understand the function of basic network components.

Activity Steps:

1. Identify Components:

- Identify the network components in your home or school network.
- Example 1: Router connecting your home network to the internet.
- Example 2: Switch connecting computers in a school lab.
- Example 3: Access point providing Wi-Fi connectivity.

2. Describe Component Functions:

- Describe the function of each component you identified.
- Example 1: Router directs data between your home network and the internet.
- Example 2: Switch allows communication between devices in the same network.
- Example 3: Access point enables wireless devices to connect to a wired network.

3. Hands-On Exploration:

- If possible, physically examine the network components and observe their connections.
 - Note any indicators or labels that help identify their functions.
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5. Diagramming a Basic Network Setup

Objective: Create a diagram of a basic network setup.

Activity Steps:

1. Draw a Network Diagram:

- Create a diagram of a simple network setup, similar to the example provided.
- Include components like the internet, router, switch, and connected devices.

2. Label the Diagram:

- Clearly label each component and connection in your diagram.
- Example: Label the router, switch, and devices like computers and smartphones.

3. Present Your Diagram:

- Share your diagram with a classmate or instructor and explain the setup.
- Discuss any differences or similarities with their diagrams.

Conclusion

Through these activities, you have explored the basics of networking by identifying networks, understanding their importance, differentiating between types, and recognizing basic components. These hands-on exercises should help solidify your understanding of networking concepts. If you have any questions or need further clarification, feel free to ask!