

Objective

By the end of this lesson, the student will understand the basic concepts of computer networking, specifically how domain names are resolved to IP addresses, and gain practical skills in using tools to explore this process.

Materials and Prep

- A computer with internet access
- Access to a command line interface (like Command Prompt on Windows or Terminal on Mac/Linux)
- Pencil and paper for notes
- Basic understanding of what a website is and how we access it

Activities

- **Exploring Domain Names:**

Start by discussing what a domain name is and why we use them. Have the student think of their favorite websites and identify their domain names.

- **Using the Command Line:**

Guide the student to open the command line interface and teach them how to use the 'ping' command to check the IP address of a website. For example, they can type "ping www.example.com" and see the results.

- **Drawing the Process:**

Have the student draw a simple diagram showing how a domain name is translated into an IP address and how data travels over the internet. This visual aid will help them remember the process.

- **Fun Quiz:**

Create a short quiz with questions about domain names and IP addresses. This can include matching domain names with their corresponding IP addresses or true/false questions.

Talking Points

- **What is a Domain Name?**

"A domain name is like the address of your house on the internet. Just like you need an address to find someone's house, computers use domain names to find websites."

- **How Do Computers Find Each Other?**

"When you type a website into your browser, your computer asks a special phone book called a DNS server to find the website's IP address. This is like asking a friend for the address of a place you want to visit!"

- **What is an IP Address?**

"An IP address is a unique number assigned to each device connected to the internet. It's like your phone number, but for computers!"

- **Why Use the Command Line?**

"Using the command line is like being a computer detective! You can find out a lot about how the internet works by using simple commands."

- **The Importance of DNS:**

"DNS is crucial because it makes it easier for us to navigate the internet. Without it, we would have to remember long numbers instead of simple names!"