**Day 1 – Domain Names & IP Addresses**

**Warm-Up Activity**

1. Go to the web page: <https://centralops.net/co/>
2. Select the “NsLookup” tool and search for the following domains:
   1. [www.peelschools.org](http://www.peelschools.org)
   2. some of your favorite / popular domains
3. Try the “Traceroute” tool for the same domains
   1. What is the purpose of this tool?
4. Try the “Ping” tool for the same domains
   1. What is the purpose of this tool?
5. Try the “Whois” tool for [www.peelschools.org](http://www.peelschools.org)
   1. Who is the owner of this domain?
   2. Who is the registrar of this domain?
   3. When does the registration expire?

**Presentation Notes: Domain Names & IP Addresses**

1. What is a client?
   1. Where does it run?

An app that runs on your phone or PC

* 1. What does it do?

The app provides the Interface

* 1. List some examples of a client.

Phones, computers, Tvs

1. What is a server?
   1. Where does it run?

Software that runs on hardware owned by   
the app company

* 1. What does it do?

It sends and receives data between multiple clients  
using internet connections

* 1. List some examples of a server.

Online Games, Spotify, MLB at Bat

1. Explain why you need both a client and a server to complete an internet application?

A client would be needed to complete the interface while the server would update or provide the data needed for various operations.

**Presentation Notes: Domain Names & IP Addresses**

1. What is a Domain Name?
   1. What is it used for?

An ID for a service on the internet

* 1. Is it for human or computer use?

It is a human readable format

* 1. Provide an example of a Domain Name.

www.peelschools.org

1. What is a IP Address?
   1. What does IP stand for?

Internet Protocol

* 1. What is it used for?

It is used to route messages and data   
between computers (clients and servers)

* 1. Is it for human or computer use?

Computer

* 1. Provide an example of an IP Address.

**67.21.152.99**

1. Who can register a domain name?
   * Domain names can be registered by companies and individuals
2. Who controls domain names for countries (i.e. .CA, .UK, etc.)?
   * Government Agencies Control the Registration of Names
3. Who controls domain names like .COM, .ORG, etc.?
   * Network Solutions is the company that *controls*  
     and *authorizes registrations* for .com domains
4. Who owns and controls IP Addresses?
   * IP Addresses are owned by large Internet Companies
5. If you own a Domain Name does that mean you also own an IP Address?

IP Addresses are "rented out" to Domain Names for a fee

1. What services do *middleman* companies like GoDaddy.com provide?
   * Companies like GoDaddy.com are *middlemen*  
     that arrange domain registrations and that   
     provide you with an IP Address
2. What are some issues and features related to IPv4?
   * Issues: Limited Speed & Limited Number of Connections
3. What are some issues and features related to IPv6?
   * Advantages: Higher Speed & Unlimited Number of Connections
4. What are some issues and features related to 5G Networks?
   * Leverages IPv6 technology to provide extreme speeds
   * Every device (e.g. doorbell) will have its own IP address