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

**Warm-Up Activity**

1. ~~Go to the web page:~~ [~~https://centralops.net/co/~~](https://centralops.net/co/)
2. Go to the web page: <https://mxtoolbox.com/DNSLookup.aspx>
3. 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
4. ~~Try the “Traceroute” tool for the same domains~~
   1. ~~What is the purpose of this tool?~~
5. ~~Try the “Ping” tool for the same domains~~
   1. ~~What is the purpose of this tool?~~
6. ~~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: Client-Server Model**

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.

The app does not control the data

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.

They work together to give you the complete application.

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

One is useless without the other part

Examples: On-Line Games, Spotify, MLB At Bat, etc.

**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?
  2. It is a human readable format
  3. Provide an example of a Domain Name.

Clients do not have Domain Names

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

The id number of a client or server device   
on the internet.

* 1. What is it used for?

It is used to route messages and data   
between computers

* 1. Is it for human or computer use?

Computer

* 1. Provide an example of an IP Address.
* IPv4 (1990 to Present)
  + 4 numbers, 64 bits (2^64 combinations)
  + Issues: Limited Speed & Limited Number of Connections

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.)?

myname.ca – CIRA (Canada)

1. Who controls domain names like .COM, .ORG, etc.?

com, org, etc. – Network Solutions (United States)

1. Who owns and controls IP Addresses?

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

With IPv4 there are a limited number of IP Addresses

1. If you own a Domain Name does that mean you also own an IP Address?

Yes

1. What services do *middleman* companies like GoDaddy.com provide?
2. What are some issues and features related to IPv4?
3. What are some issues and features related to IPv6?
4. What are some issues and features related to 5G Networks?

**Day 2 – Internet Services (Software)**

Questions t.b.d.