**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?

**Phone or PC**

* 1. What does it do?

**Provides the interface**

* 1. List some examples of a client.

**Browser, Game Launchers**

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

**On hardware owned by company**

* 1. What does it do?

**Sends and receives data between multiple clients using internet connections**

* 1. List some examples of a server.

**Websites, game servers (dedicated or peer-to-peer)**

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

**If you have only a client you cannot access any servers and with only a server there’s no client to access the server.**

**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 for human use**

* 1. Provide an example of a Domain Name.

**Peelschools.org**

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

**Internet protocol**

* 1. What is it used for?

**ID number of a client or server device on the internet**

* 1. Is it for human or computer use?

**It is for computer use**

* 1. Provide an example of an IP Address.

**23.54.325.99**

1. Who can register a domain name?

**By companies or individuals**

1. Who controls domain names for countries (i.e. .CA, .UK, etc.)?

**Government agencies**

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

**Network Solutions**

1. Who owns and controls IP Addresses?

**They are owned and controlled by large internet companies**

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

**No, you need to obtain an IP address**

1. What services do *middleman* companies like GoDaddy.com provide?

**Arrange domain registrations and provide an IP address**

1. What are some issues and features related to IPv4?

**Limited Speed & Limited Number of Connections**

**4 numbers, 64 bits (2^64)**

1. What are some issues and features related to IPv6?

**Higher speed and unlimited number of connections**

**8 alpha numeric, 128 bits (2^128 combinations)**

1. 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**

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

Questions t.b.d.