**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: Client-Server Model**

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

It runs on a phone or a pc

* 1. What does it do?

The app provides the interface

* 1. List some examples of a client.

Examples include google chrome

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

It runs on hardware which is 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.

Cloud server, application server, file server

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

They work together in order to give the complete application. If one doesn’t have the other they are useless. Examples include online games, Spotify

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

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

Used for an ID for a service on the internet

* 1. Is it for human or computer use?

It is in human readable format but must be converted to an IP address to be used by a computer

* 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?

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

* 1. Is it for human or computer use?

Computer used as it is used to route messages and data between computer (clients and servers)

* 1. Provide an example of an IP Address.

67.21.152.99

1. Who can register a domain name?

Can be registered by companies and individuals

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

Government agencies control the registration of names

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

Network solutions(United States)

1. Who owns and controls IP Addresses?

Owned by large internet companies

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

No. IP addresses are rented out to domain names for a fee

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

They arrange domain registrations and that provide you with an IP address

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

4 number, 64 bits (2^64 combinations)

Issues, limited speeds and limited number of connections

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

8 alpha – numerics, 128 bits (2^128 combinations

Advantages: higher speeds and unlimted number of connections

1. What are some issues and features related to 5G Networks?

Leverages IPv6 technology to provide extreme speeds

Every device will have its own IP address

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

Questions t.b.d.