**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?
   * (An app that runs on your phone or PC
   * The app provides the Interface
   * The app does not control the data)
   1. What does it do?

(A client is a piece of computer hardware or software that accesses a service made available by a server.)

* 1. List some examples of a client.

(Chrome, Internet explorer, Oprea.)

1. What is a server?
   1. Where does it run?
   * (Software that runs on hardware owned by   
     the app company
   * It sends and receives data between multiple clients  
     using internet connections)
   1. What does it do?

(A server is a computer that serves information to other computers. These computers, called clients, can connect to a server through either a local area network (LAN) or a wide area network (WAN), such as the Internet.)

* 1. List some examples of a server.

(Faxing someone, Playing on an online server, Email.)

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

**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
   * It is a human readable format
   * It must be converted to an IP address  
     to be used by a computer
   * **Note**: Clients do not have Domain Names)
   1. Is it for human or computer use?

(It’s a Human use because we need words for us to understand.)

* 1. Provide an example of a Domain Name.

(An example of a Domain is NBA.com.)

1. What is a IP Address?
   1. What does IP stand for?
   * [The id number of a client or server device   
     on the internet.
   * It is composed of four numbers

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

* 1. What is it used for?

(An Internet Protocol address (IP address) is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.)

* 1. Is it for human or computer use?

(A computer uses IP because they need numbers to understand.)

* 1. Provide an example of an IP Address.

(67.21.152.99- www.peelschools.org

1. Who can register a domain name?
   * (Domain names can be registered by companies and individuals
   * Government Agencies Control the Registration of Names)
2. Who controls domain names for countries (i.e. .CA, .UK, etc.)?

(Canada and the UK.)

1. Who controls domain names like .COM, .ORG, etc.?
   * (Network Solutions is the company that *controls*  
     and *authorizes registrations* for .com domains)
2. 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)
3. If you own a Domain Name does that mean you also own an IP Address?

(No, you need to register for a IP addresses.)

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

(You would get a IP address and if you upgrade they would give you additional services.

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

(Limited Speed & Limited Number of Connections)

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

(Complexity. Migrating to IPv6 will be very complex)

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

(Some 5G pundits contend that the new network generates radiofrequency radiation that can damage DNA and lead to cancer; cause oxidative damage that can cause premature aging; disrupt cell metabolism; and potentially lead to other diseases through the generation of stress proteins.)

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

Questions t.b.d.