## **🧾 Cyber Rangers – Module 1, Session 2**

**Lesson Companion: What’s in the Digital World?** *Student Notes & Thinking Journal*

### **🎯 What You’ll Learn Today**

* How devices connect through networks
* What the internet really is and how it works
* What happens when you send a message online
* How hackers can intercept that data — and how we defend it

### **📓 Notes by Topic**

Use the space below to take notes while watching the presentation and participating in class.

#### **🔌 What Is a Network?**

🖊 A network is...

🖊 Devices in my home network include:

#### **🌐 What Is the Internet?**

🖊 The internet is made up of...

🖊 It works by...

#### **📦 What Are Data Packets?**

🖊 When I send a message, it gets...

🖊 Each packet has:  
 ☐ A piece of the message  
 ☐ The destination IP address  
 ☐ The sender's IP address

#### **🧭 IP Address**

🖊 My IP address is like...

🖊 IP addresses help computers...

#### **🌍 DNS – Domain Name System**

🖊 DNS is important because...

🖊 Example:  
 google.com → \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### **📡 Routers and Switches**

🖊 Routers help...

🖊 Switches connect...

#### **🐍 Threats in the Network**

🖊 Hackers can use tools to:  
 ☐ Intercept traffic  
 ☐ Read unencrypted messages  
 ☐ Trick DNS systems

🖊 The danger is...

#### **🔐 How Cyber Rangers Defend the Network**

🖊 Some tools and techniques we use include:  
 ☐ Encryption  
 ☐ Traffic monitoring  
 ☐ DNS validation  
 ☐ Using secure websites (https)

### **💡 Key Terms to Remember**

| **Term** | **What It Means** |
| --- | --- |
| Network | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Internet | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Packet | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| IP Address | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Router | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| DNS | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

### **🧠 Lab Preview – What to Expect**

Today’s lab is about **mapping a network** using a simulator.  
 You’ll:

* Build a small virtual network
* Connect 2 computers, a router, and a switch
* Watch how data travels between them

🖊 What I think the lab will look like:

### **💬 Reflection**

1. What part of today’s session was new or surprising to you?  
    🖊 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
    🖊 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What do you want to explore more about the internet?  
    🖊 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
    🖊 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What’s one way hackers could misuse this technology — and how would you stop it?  
    🖊 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
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