Unit 5, Lesson 1: Connecting to the Internet

Northstar Standards	Objectives/SWBAT
Internet Basics: #1 Identify the different ways a person can connect to the internet.	**I can** define internet, Wi-Fi, ethernet port, and other related common vocabulary.
Seattle Digital Equity Initiative Skills Framework	**I can** tell the difference between common types of internet connections (public, private, password protected).
EF.7 Understand the Internet: Understanding what the internet and web are EF.11 Connect to Wi-Fi: Understand if my computer is connected to the Internet/Wi-Fi and how to connect/disconnect MO.2 Understand Online Access Differences between Wi-Fi and cellular data	**I can** connect a class computer to the internet using Wi-Fi .

Materials to prepare:
- [Unit 5 Slides](#)
- Bring an old hot spot, ethernet cable, modem to class (if available)
- Unit 5 Lesson 1.Vocabulary Guide (1 copy per pair, hardcopy)
- Unit 5 Lesson 1.Activity.Different Places Flashcards (one set per pair, hardcopy)
- Unit 5 Lesson 1.Activity.WiFi Networks (1 copy per pair, hard copy)
- Unit 5 Lesson 1.Activity.Connecting to WiFi Networks (1 copy per student)
- Unit 5 Lesson 1.Activity.Comparing Internet Connections (1 copy per student)
- Document Camera

Vocabulary to Review Before the Lesson
1. *Web (n):* A net made by a spider; a complicated arrangement or pattern of things (i.e. a web of city streets)
2. *Satellite (n):* A machine that is sent into space and that moves around the planet.

Vocabulary & Concepts Introduced in Lesson

internet	Wi-Fi	modem
network	ethernet	

Timing Notes:

CASAS: ESL 3 (184) - ABE 6 (258)	CASAS: ABE 2 (204) - ABE 6 (262)
Timing Notes: 3 - 4 hours	Timing Notes: 0.5 - 1 hour

Lesson Plan:
1. Review & Warm-Up
2. What is the Internet?
3. Types of Connections
4. How to connect your computer to the Internet
5. Evaluation

Review & Warm-up:

Write, Pair, Share: Ask students to open up a new WordPad/MS Word document and type out 1-2 sentences describing the internet. Students pair up with their elbow partner and share what they wrote. They combine definitions and add information to their document as needed. Last, there is a whole class share-out; the teacher should synthesize a class definition and either write it on the board or type it in the class slides.

What is the Internet?

Ask: What is the internet? (gather various ideas)

Say: There are a lot of different ways to think of it. Some people describe it as an information superhighway or like a huge library with lots of information to explore.

Say: The internet is a huge collection of computers across the globe that all connect to each other and share all kinds of information like stories, pictures, and videos.

Say: Sometimes you might hear it called the **World-Wide Web** or just **the Web**.

Ask: Why do you think the internet might be called a web?

Say: The internet is like a huge spider web connecting computers all over the world.

- **Demonstrate**: Instructor models filling out the "internet" row in the Unit 5 Lesson 1.Vocabulary Guide using a document camera

Types of connections:

Say: Since the internet is built from connections of computers, to use the internet, we need our device to be connected too.

Ask: What do you do to connect to the internet?

Say: There are 3 ways we can connect a computer to the internet: Ethernet, Wi-Fi, and Cell Phone Data. Let's explore what each of these types of connections look like.

Ethernet:

Say: Ethernet is a strange word to say but it's a very important piece to help us connect to the internet.

- Ethernet (n): a system of wires and devices for connecting computers to the internet

Say: Essentially, Ethernet is a way to connect to the internet using wires.

Say: Ethernet **must have** a wire connection between the wall and computer using a special ethernet cable.

- **Demonstrate**: show physical ethernet cable, computer port and wall port

Say: The ethernet cable connects to special kinds of cables built into buildings which connect to the internet.

Say: This is great for desktop computers that aren't being moved, but what about laptops that are meant to be mobile?

- **Demonstrate**: Instructor models filling out the "ethernet" row in the Unit 5 Lesson 1.Vocabulary Guide using a document camera

Wi-Fi:

Ask: Have you heard of Wi-Fi before? Have you used it? What do you think this is? Where can you access Wi-Fi?

Say: Wi-Fi stands for Wireless Fidelity which was the creators' way of saying: 1. It doesn't need wires and 2. It's safe to use.

- **Demonstrate**: Instructor models filling out the "Wi-Fi" row in the Unit 5 Lesson 1.Vocabulary Guide using a document camera

Say: Wi-Fi uses a box called a **Modem** to connect a device to the internet without a wire.

Say: The modem connects to the ethernet and then sends out a special signal (a radio wave) to connect to any devices in a certain area. This signal is called a **Network**.

Say: Wi-Fi will be just a bit slower than other types of connections, but it means you can move around as much as you want and still be connected to the internet.

- **Demonstrate**: Instructor models filling out the "modem" row in the Unit 5 Lesson 1.Vocabulary Guide using a document camera

Say: Although, the closer you are to the modem, the faster your internet connection will be.

Cell Phone Data:

Say: One of the main ways we can connect to the internet is with our cell phones.

Say: Our cell phones have something called **data.** Cell phone data allows you to connect to the internet with satellites. The signal goes from your phone to a cell tower then to a satellite that connects to the internet. And vice versa.

Say: On your smartphone, if you look at the top right corner, you should be able to see 4G LTE or 5G next to your signal (looks like bars or a triangle). This tells you how fast your internet connection is.

Note: The G stands for the generation of this technology. So, 5G = 5th generation

Say: The slowest to fastest internet Data is 3G, 4G LTE, to 5G.

Challenge Discussion

Note to Instructor: Hotspots are an advanced topic. You can "turn on" a hotspot on your cell phone but there are also small devices that function solely as hotspots. If learners have never heard of this, we suggest skipping it for now and returning to the discussion later in unit 5.

Ask: What is a Hotspot? Have you used a Hotspot before? How can you connect to it?

-    **Demonstrate**: show physical hotspot, if available. If learners have done this from their phones before, encourage them to show and explain how they've done it

Say: You can share this internet connection with other computers using a **hotspot**.

-    You can turn on a hotspot in your phone settings.

-    **Demonstrate**: Instructor models filling out the "hotspot" row in the Unit 5 Lesson 1.Vocabulary Guide using a document camera

Optional Metaphor: Think of the Network as a rope connecting your computer to the modem. The farther away you go, the rope gets longer and thinner so information takes a lot longer to travel from the modem to you and back. On the other side, the closer you are to the modem, the stronger and shorter the rope, meaning it can carry a lot more information and move much quicker.

Activity: Different Places Part 1

Handout **Unit 5 Lesson 1.Activity.Different Places Flashcards**

Write, Pair, Share: Ask students to return to their WordPad/MS Word document and type out a list of places describing where they can find internet access. Students pair up with their elbow partner and share what they wrote. As a whole class, compare student lists with the Unit 5 Lesson 1.Activity.Different Places Flashcards and create additional flashcards for any locations not currently included.

Ask: Where in the community can you find internet access?

Say: Return to your WordPad/MS Word document. Type a list of places you can connect to the internet.

Say: Compare with your partner. [Wait] Add any new locations to your list. [Wait]

Ensure each student pair has a set of flashcards.

Ask: Which locations should we add to these flashcard sets?

- **Demonstrate**: Instructor models writing out additional flashcards, if needed.

Say: Sort (or organize) the locations by how strong or weak (fast or slow) you think the internet connection is at each location. Prepare to share your ideas about one of the locations with the whole class.

Ask: Which connection is the fastest? The slowest?

- **Demonstrate**: Instructor demonstrates the sorting/organizing process with at least two examples. *Option* to order the locations in a continuum or have two groups (one fast and one slow).

Instructor leads the whole group share-out. Encourage learners to defend their ideas and explain in their own words.

Connecting to a Network:

Say: Let's talk about how to actually connect to the internet using a computer.

Say: Phone data and Ethernet will automatically connect to your device when you turn it on or plug in the ethernet cord, but connecting to a Wi-Fi network has more steps.

Say: Every modem gives off a special (radio) wave. We call this signal (radio wave) a **Network**.

Say: Every network has a different name so you can find the correct one.

Say: The computer looks around the area for any networks it can see and gives you a list of any it finds. It's up to you to tell the computer which one you want to use.

- **Handout**: Unit 5 Lesson 1.Activity.WiFi Networks to display the list of networks.

- **Demonstrate**: Or pull up available networks on a projected computer.

Say: This is what this list of networks usually looks like.

Say: The computer tells you which networks it finds and how strong the connection is.

Say: It also tells you which are private, and which are available to the public.

Ask: Do you see the lock next to the Wi-Fi signal icon? What do you think this means?

Say: The lock means you need the password to use this network.

Say: For a personal network, you can find the network name and password on a sticker on the modem.

Steps to connect to a network:

1. Click on the Internet icon on the taskbar
2. Click on the name of your network

3. Click on the new "Connect" button that shows up.

4. [Optional] Type in the password (the network security key)

5. Click "Next"

6. [Optional] It may ask you if you want your computer to be discoverable by others on this network. On private networks, it's safe to agree, but when you are on a public network—DO NOT AGREE.

Ask: Why do you think you shouldn't be discoverable by others on a public network?

Say: When you're "discoverable" other people you don't know might be able to see information you send or visit when you're using this network.

Ask: Why could this be dangerous? (Someone could see your personal information without you knowing)

Activity: Network Activity

Handout: **Unit 5 Lesson 1.Activity.WiFi Networks**

Students work in pairs to complete the sheet.

Activity: Different Places Part 2

Learner pairs return to their flashcard sets.

Ask: Is the internet network at the airport public or private? How do you know?

Say: Sort (or organize) the locations by private or public networks. Prepare to share your ideas about one of the locations with the whole class.

- **Demonstrate**: Instructor demonstrates the sorting/organizing process with at least two examples.

Instructor leads the whole group share-out. Encourage learners to defend their ideas and explain in their own words.

Activity: Practice Connecting to Networks

Handout: **Unit 5 Lesson 1.Activity.Connecting to WiFi Networks**

Pair work: One student reads the steps as the other student follows directions to connect to the internet on a computer.

Students practice connecting to organizational networks on class computers. Ask students to point out which networks shown on their computers are private or public. Instructors should disconnect networks as needed to continue practicing.

Evaluation:

Handout: Unit 5 Lesson 1.Activity.Comparing Internet Connections

Directions: Learners use Unit 5 Lesson 1.Activity.Comparing Internet Connections or create three different T-Charts in their notebooks. Each T-Chart corresponds to a different type of internet connection. Students write out (or discuss) the Pros/Cons to each type of internet connection.

[Optional] Online Sort

For learners comfortable checking email on their cell phone, consider emailing this link for drag & drop as well as sort practice: Flippity U5.L1 Link If you have an organizational website you can edit, consider embedding the same hyperlink(s) for students to access when they want to practice.

Extension:

Directions:

As a class walk or meet at the local library. Ask learners to bring any device (laptop, tablet, or phone). Ask learners to teach the instructor how to connect to library WiFi while there. Encourage learners to reference their notes while they teach the instructor.

Adaption:

Assign this as homework for learners outside of class. Learners go to the library and connect to the public network individually.

Unit 5 Lesson 1: Vocabulary Guide

Vocabulary Word	Draw a Picture	Definition	Write a NEW sentence
Internet			
Modem			

Vocabulary Word	Draw a Picture	Definition	Write a NEW sentence
Wi-Fi Network			
Ethernet			
Cell Phone Data			

Unit 5 Lesson 1 Activity: Comparing Internet Connections

Ethernet	
Pros (+)	Cons (-)

Wi-Fi

Pros (+)	Cons (-)

Cell Phone Data

Pros (+)	Cons (-)

Name: _____

Unit 5 Lesson 1 Activity: Connecting to Wi-Fi Networks

Directions: Read the steps and follow the instructions.

1. Look at your taskbar to see if you need to connect to the internet.

   If you see 📶 you're already connected to the internet and good to go!

   If you see 🌐, go to step 2.

2. Click on the Internet NOT connected 🌐 icon.

3. Look for the name of your network and click on it.

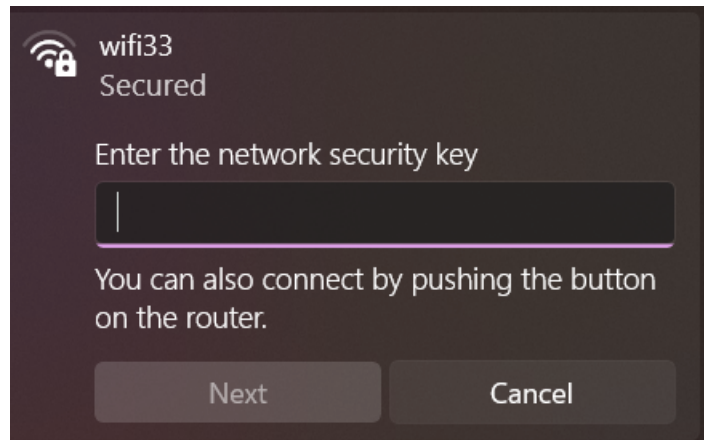   What's the name of your internet?
   Network Name: _____

4. Click on the button "Connect".

   Connect

🔒 <u>For private networks:</u>

After you click "Connect", <u style="color:red">private networks</u> will ask you to enter the password or the "Net Security Key".

5. Type in the password.

6. Click "Next".

7. And you're connected!

Unit 5 Lesson 1 Activity: Different Places Flashcards

Directions: Cut out the different places flashcards. Do these places have public or private internet connections?
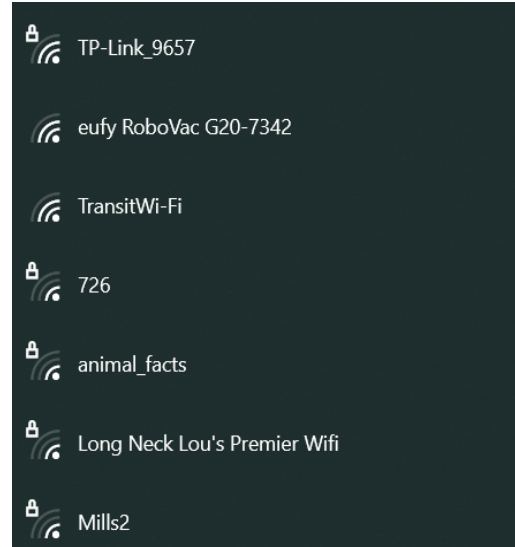
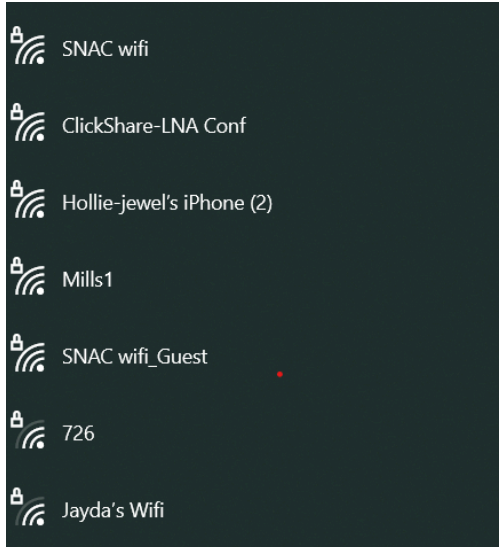| Airport	Bus Station
Friend's House	School
Library	Coffee Shop

Unit 5 Lesson 1 Activity: Wi-Fi Networks

Directions: Look at the list of Networks to answer the following questions.

SNAC wifi	TP-Link_9657
ClickShare-LNA Conf	eufy RoboVac G20-7342
Hollie-jewel's iPhone (2)	TransitWi-Fi
Mills1	726
SNAC wifi_Guest	animal_facts
726	Long Neck Lou's Premier Wifi
Jayda's Wifi	Mills2

1. Star (or highlight) in **Yellow** the <u>private</u> networks.

2. Circle in **Blue** the <u>public</u> networks.

3. You need to pay a bill, what networks would be safe to use?

    a. _____

    b. _____

    c. _____

4. You're practicing typing, what networks could you use?

    a. _____

    b. _____

    c. _____