Unit 1, Lesson 1: What is a Computer?

Northstar Standards	Objectives/SWBAT
Basic Computer Skills: 1. Distinguish between different types of devices (tablets, desktop and laptop computers). 2. Identify specific computer hardware (system unit, monitor, printer, keyboard, mouse or touchpad, ports, touchscreen).	**I can** orally and in writing define and describe the purpose for the vocabulary listed in this lesson. **I can** list (or identify) the four main types of computers. **I can** orally name the four core parts of each type of computer.
Seattle Digital Equity Initiative Skills Framework	
EF.5 Understand My Computer; Understanding computer and peripheral components; basic troubleshooting; using an OS	**I can** recall the names for core parts of each computer and verbally explain the purpose of each part and/or when/how to use the part.

Materials to prepare:
- Laptops (or desktop computers) closed and turned off in front of every student [include mice if possible]
- Handout 1: Computer parts/matching activity
- Optional: Hardcopy of 3-2-1 Self-Assessment (one per learner)

Vocabulary to Review Before the Lesson
1. *Information (noun):* knowledge that you get about someone or something: facts or details about a subject.
2. *Port (noun):* a town or city where ships stop to load and unload cargo.
3. *Machine (noun):* a piece of equipment with moving parts that does work when it is given power from electricity, gasoline, etc.

General Notes to the Instructor:
- For Muslim students: when teaching students how to hold the mouse and click, avoid touching hands to demonstrate, especially if they are of the opposite sex.
- During examples/analogies with phones, pair learners without phones to those who do.

Vocabulary & Concepts Introduced in Lesson:

Computer	Monitor	Touchpad/Trackpad
Laptop	Key	Wheel
Desktop	Keyboard	Left/Right Click
Screen	Mouse	Cursor

Timing Notes:

CASAS: ESL 3 (184) ABE 6 (258)	CASAS: ABE 2 (204) - ABE 6 (262)
Timing Notes: 60-90 minutes	Timing Notes: 15-20 minutes

Lesson Plan:
1. Community Building & Warm-up
2. What is a Computer?
3. Types of computers
4. Parts of a Desktop Computer
5. Parts of a Laptop Computer
6. Parts of the Mouse & Touchpad
7. Evaluation

Community Building Activity:

Round Circle Ball Toss:

What's your name? Where did you grow up? What do you want to learn in this class?

Machine Engagement (Warm-up):

Instructor Note: Use engagements as you see fit. Not all classroom environments need these sections, but they can help with lower English level learners.

Ask: What is a machine?

Ask: What machines do you use a lot? (gather responses: car, phone, alarm clock, tv, etc.)

Ask: Why do you use these machines? (to make your life easier)

Say: Computers are just another kind of machine that you can use to make your life easier. Today we're going to learn about different types of computers and their parts.

What is a computer?

Ask: What is a computer? (gather various responses)

Read the definition of a computer and write it on the board.

> *Computer (n):* An electric machine that can store and work with large amounts of information.
>
> (note: For lower English students, this definition may need to be further simplified)

Project or hold up pictures of various types of computers.

Say: These are all computers. They look different but they all have very similar jobs.

Computer Types

Say: There are 4 common types of computers that you'll see and probably use during your day-to-day life.

Project or hold up Image 1

Say: The desktop computer is meant to stay in one place (like on the top of a desk: desk*top*). All the parts are separate and only connected by wires. Desktop computers are usually bulky and can be heavy.

Project or hold up Image 2

Say: Then we have the laptop computer. Everything is combined into one object that can easily be carried around. It's designed so that you can use it on 'top of your lap'.

Project Image 3

Say: Next is the tablet.

Ask: Have any of you used a tablet? (many times, students have) What are some differences between a tablet and a desktop or laptop? (gather various answers)

Say: The tablet shares a lot of things with the smartphone.

Project Image 4

Ask: How many of you have a smartphone? (most folks will but you may have the occasional student with a flip-phone)

Say: You use a computer every day. It does a lot of similar things—it might just look a bit different.

Parts of a Desktop Computer

Say: Let's talk about the different parts of the Desktop computer.

Project Image 1

Point out each part as you name them.

Ask: What do you see here? How many separate parts do you see? What do you think they do?

(gather various responses and make sure you go through all of the following parts & explanations)

1. This is the keyboard. This lets us write on the computer.
2. This is the mouse; we use it to move around and open things.
3. The big wide square here is the monitor. Sometimes people might call this a screen, but the official name is "monitor". The monitor allows us to see what's happening in the computer.
4. The thin box to the side has many names. Some people call it the tower, or the computer case, or the system unit. All three names work. This is the actual 'brain' of the computer. The tower is where all the thinking happens.

Parts of a Laptop Computer

Say: Now, let's talk about the laptop.

Project Image 2

Say: The laptop has all the same parts as the desktop, just all in one machine.

Ask: What parts do you recognize?

(gather various responses and make sure to go through all the parts below)

1. You can see a keyboard on the bottom part to help us write.
2. The screen is on the top half. This lets us see inside the computer and we can see where our mouse is on the screen.
3. The camera is this small circle above the screen. The microphones usually are on either side of the camera. These allow the computer to see and hear you.
4. Below the keyboard is a very important part. It looks like a square with two longer buttons on the top. This is called the Touchpad or Trackpad. It has the same purpose as the mouse – to help you move around – it's just built into the laptop.

Parts of the Mouse & Touchpad

Say: Let's talk a bit more about the mouse and touchpad. For a laptop, you can use both options. It all depends on what you prefer most. Let's explore how to use both so you can see which one you like best.

Say: Let's start with the mouse.

Demonstrate: Hold up a mouse and/or distribute mice to students so they can follow along and practice. For now, keep the mice unplugged while students practice using the mouse.

Say: There are three main parts to a mouse. There's left click, right click, and the wheel.

Say: The mouse we can touch moves the mouse arrow inside the computer. Moving the mouse will move the arrow on the screen. We need the mouse to tell the computer what to do by moving the mouse and clicking.

Ask: What do you think a click is? (pushing on one of the sides of the mouse to make a "click" sound)

Demonstrate each part as you name them.

Say: We use the word "click" as the name since using it makes a clicking sound. The left click is what we use to open and select things. This is what you'll use most often. This is a very important button. Whenever someone tells you to click on something, it means to use the left click.

Say: Right click is the right button on the mouse. Right click opens a special menu for objects on the computer so we want to be very careful when we use it.

Say: The last part is the wheel. The wheel is the circular part in the middle of the mouse. When you turn it, it moves you up or down on the screen. We call this action *scrolling*.

Say: There's a specific way to hold a mouse.

Ask: Have any of you used a mouse before? Can you show us how you usually hold them?

Say: The palm should cup & rest on the rounded back of the mouse. Your pointer finger should lay on the left click and your middle finger should be on the right click. Your thumb and pinky should be used to gently hold on to the sides.

Demonstrate the correct hand placement and have students mimic the action.

Say: Let's look at the touchpad now. What parts seem like the mouse?

Say: There are two buttons on the top (sometimes on the bottom or both) that are left click and right click. The big part of it tracks your finger to move on the laptop.

Say: To scroll up and down (since there's no wheel), we can use two fingers on the trackpad to go up and down.

Demonstrate the two-finger swipe action first on a hard surface and have students copy before attempting on the touchpad.

Say: Let's practice using both. Which do you prefer?

Distribute laptops to students and pull up a website for students to practice on. We recommend using a website like http://mouseprogram.com/practice.html for this activity. Ask students to use both the mouse and the touchpad to navigate.

[Optional] Online Matching Activities

For learners comfortable checking email on their cell phone, consider emailing these links for drag & drop as well as vocabulary practice: WordWall U1.L1 Computer Vocabulary and the WordWall U1.L1 Computer Vocabulary Anagram. If you have an organizational website you can edit, consider embedding the same hyperlink for students to access when they want to practice.

Additional Activity Idea:

Call out the names of computer parts one at a time and ask students to point to the matching part. (Extension: ask students to do this in pairs. Provide a list of parts S's have learners and ask one to be the "teacher" in the pair. "Show me the _____.")

Evaluation:

Handout the computer parts matching activity. Give students a couple minutes to fill it out independently before going through the answers together as a class (this is a great opportunity to practice spelling the words, if needed).

Optional: Pass out the "3-2-1 Assessment & Reflection" hard copy. Elicit the student responses again. With the document camera, the teacher models writing one sentence together as a class. Then, ask a student to share their example. Last, allow time for learners to complete the prompt. Use this worksheet as an exit ticket. Learn more about the strategy and variations here.

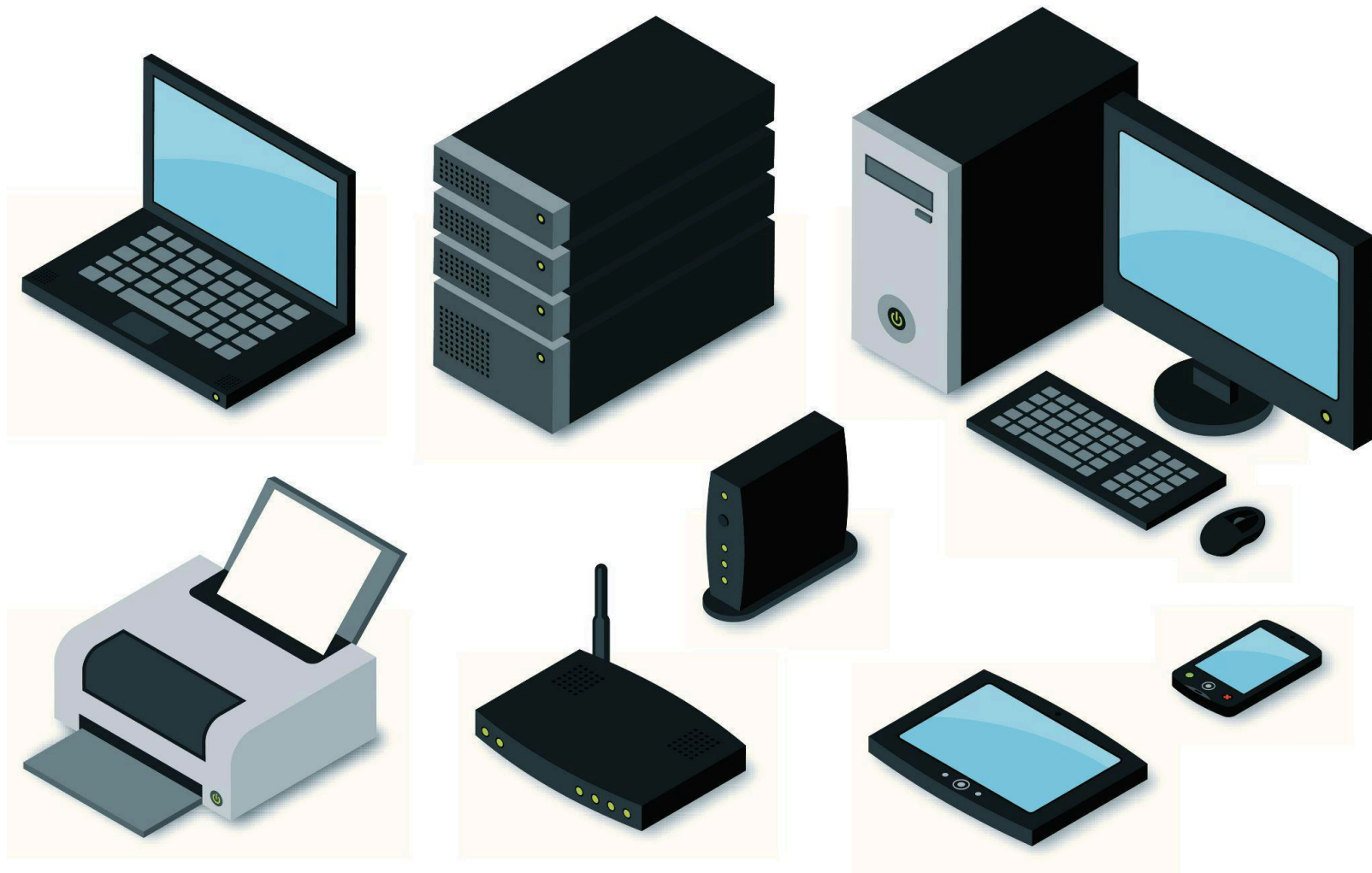*Image 1: Desktop computer parts (Image from iStock)*

Image 2: A Lenovo Laptop

Image 3: Different computers and technology they work with (Image from iStock)

Name: _____

Unit 1 Lesson 1: Parts of a Computer Activity
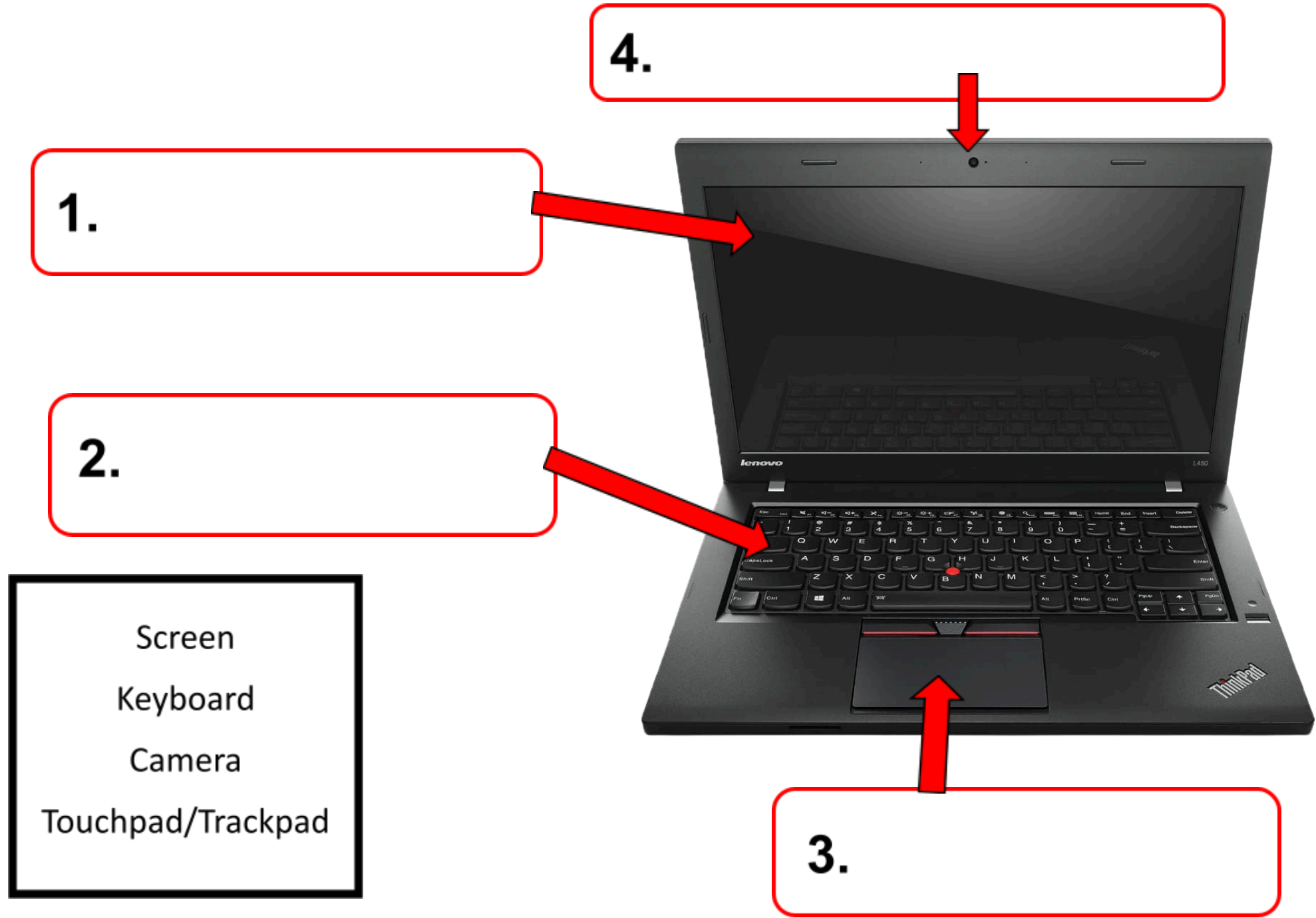
Directions: Write the name of the part in each box.

D.

A.

Monitor

Keyboard

System Unit (Tower)

Mouse

B.

C.

4.

1.

2.

Screen

Keyboard

Camera

Touchpad/Trackpad

3.

Unit 1, Lesson 2: Power & Charging

Northstar Standards	Objectives/SWBAT
Basic Computer Skills #2 Identify specific computer hardware (system unit, monitor, printer, keyboard, mouse or touchpad, ports, touchscreen). #18 Turn the computer and monitor on and off.	**I can** turn a laptop on and off using the power button. **I can** plug in an external mouse via USB port.
Seattle Digital Equity Initiative Skills Framework	**I can** charge a laptop.
EF.5 Understand My Computer; Understanding computer and peripheral components; basic troubleshooting; using an OS EF.4 Use the Mouse; Basic mouse functionality	

Materials to prepare:
- Laptops for each student, chargers, and mice
- Prepare examples of different types of cords to show students.
- Individual white boards and markers for students during the warm-up.

Vocabulary to Review Before the Lesson
1. *Power (noun):* the electricity that people use.
2. *Battery (noun):* a device that is placed inside a machine (such as a clock, toy, or car) to supply it with electricity.

General Notes to the Instructor:
- For Muslim students: when teaching students how to hold the mouse and click, avoid touching hands to demonstrate, especially if they are of the opposite sex.
- During examples/analogies with phones, pair learners without phones to those who do.

Vocabulary & Concepts Introduced in Lesson

Port cord	USB Port/Cord Charger	icon (power/charger icon)

Timing Notes

CASAS: ESL 3 (184)	CASAS: ABE 2 (204) - ABE 6 (262)
Timing Notes: 30 min	Timing Notes: 15 min

Lesson Plan Outline:
1. Review
2. Engagement – how does this relate to everyday life?
3. Power Icon & Buttons
4. Cords & Ports
5. Connecting a Mouse
6. Charging Laptops
7. Evaluation

<div style="border:1px solid black; padding:10px;">

<u>Review & Warm-up:</u>

Community Building: Circle up. Ask and answer: What's your name? Where did you grow up? What do you want to learn in this class? Alternative question(s): What did we do in class last session? What predictions can you make about the next steps in using a computer?

Distribute white boards and markers to students. Project or hold up photos of a desktop computer and a laptop. Ask students to write down the name of the parts on the white boards as you point them out.

Optional Power *Engagement*:
(Note: Use engagements as necessary)

Ask: What's the first thing you need to do to use a phone? (turn it on/plug it in/give it power)

Ask: When you want to use your phone, what's the first thing you have to do before you can use it? (push the power button or wake it up with other gestures–depends on the phone model)

Ask: What happens when your phone runs out of power? (It won't start/work) What do you do when that happens? (Plug it in to a charger)

Say: Computers are the same—we need to give it power and turn it on. Some computers, like desktop computers, need to have a constant source of power so it will always be plugged into an outlet. Others, like a laptop or your phone, have a battery that needs to be refilled when it runs low.

Additional option: Ask students to create their own metaphors for powering computers.

</div>

Power Icons & Buttons

Say: Let's start by talking about icons. An ***icon*** is *a small, important picture on the computer.* Icons can tell you all sorts of things so it's important to pay attention to them!

<u>Draw</u> this icon or print it out:

Say: This is the icon for **power.** Wherever we see this picture, it's telling us that this thing has something to do with the computer's power.

Say: All computers have a power button to turn it on and off.

Ask: Where is the power button on your phone? (have students show you/point it out)

Say: On a laptop, the power button is usually right above the keyboard but it won't always have this icon on it. This is because most people are familiar enough with computers to find and recognize power buttons so some companies decide to remove the picture.

Ask: Can you find a button with the power icon on it on the laptops in front of you? (make sure each student is able to find the power button)

(Optional)

Say: For desktop computers, the screen and the "brain" are separate pieces, so they have two separate power buttons. One on the monitor and one for the actual computer inside.

(if you have access to a desktop computer, demonstrate where to find these/point them out)

Cords & Ports *Engagement*:

Say: How many of us have driven a car before? What happens when you run out of gas? Let's go back to our car example. When we run out of gas, we need to fill the gas tank back up.

Ask: How do we refill it? (Go to the gas station)

Ask: At the gas station what do we use to put gas into our car? (a hose with a nozzle)

Ask: Where do we put the nozzle into the car? (a hole in the side with a cap on it.)

Say: The filler hole is made to match the shape of the nozzle so that we know what's supposed to go there.

Say: Computers are very similar. They have cords and ports that fit them. Let's talk about what those are and how to match them.

Cords & Ports

Say: Let's first talk about cords.

Read the definition then write it out on the board for students to copy.

- o *Cord (n)*: Wire that connects a machine (usually) to a power source or to another machine.

Bring out the cord examples including USB mice and various chargers. Point out to students how cords can look different and have different shapes on the end.

Say: Each end of a cord has a special shape to match the hole in the computer it goes into. This hole is called a **port**.

Write the following definition on the board for students to copy.

- o *Port (n)*: a hole/place where you can connect a piece of equipment (i.e., a mouse or printer) to a computer with a cord.

Say: Most ports are on the sides or back of a laptop.

Demonstrate location of ports on class laptop and have students point them out on the laptops in front of them.

Ask: How many ports do you have on your laptop? (Answers will vary)

Ask: Are they all the same shape? (No, they may have duplicate USB ports or ones with similar shapes, but for the most part, they should vary in shape)

Say: It's very unlikely that you will need to use all these ports, but there are two important ones that you will use frequently. Let's talk about them!

Connecting a Mouse

Say: Grab a mouse and look at the end of the cord.

Ask: What shape is it? What does it look like? (a rectangle with half of the inside filled)

Draw the shape on the board.

Say: This is called a USB cord. USBs are very common, and you will see a lot of computer cords that have this shape.

Say: Because USBs are so common, many laptops have more than one USB port.

Ask: Can you find one (or more) USB ports on your laptop?

Say: Plug in the mouse cord to the USB port.

Charging Laptops

Say: Just like phones, we need to use a special kind of cord to recharge laptops. But these cords can be very different depending on the company and kind of laptop you use. So, we need to be prepared to use lots of different kinds!

Say: Your laptop will always come with a charger that fits into the charging port. A **charger** is the name of **the cord that gives your laptop battery more power**. But the location and shape of the charging port might be different, so let's explore!

Say: Charging ports are usually in the left or right corner of the side of the laptop. (Sometimes it might even be on the back!)

Say: The best way to find the correct port is to look for the **charger icon** next to the port.

Draw the following icon on the board and label it. Give students time to copy.

Activity (option 1):

Gather a variety of laptops with their matching chargers and place them randomly together on a table. Ask students to first find the charging port on a laptop and then find the charger that matches. Continue until all laptops have been matched with their correct charger.

Or

Activity (option 2 – if you do not have a variety of laptops available):

Have students find the charging port on the laptop in front of them and plug in the corresponding charger. Then show examples via projector or print out of various chargers and their ports.

Evaluation:

In front of each student, place a laptop, a charger (that matches), and a mouse. Make sure they are all separated from each other. Then, on the board, write the following instructions:

1. Open the computer in front of you and push the power button.
2. Connect the mouse to the computer.
3. Connect the charger to the computer.

Use this time to observe students' grasp of these skills and provide assistance as needed.

Use the **U1.L2 Formative Checklist** to track student progress.

Unit 1, Lesson 3: Logging in

Northstar Standards	Objectives/SWBAT
Basic Computer Skills: #3 Log on to and shut down a computer.	**I can** login to a computer using a password.
Seattle Digital Equity Initiative Skills Framework	**I can** logout of a computer.
IS.4 Self-assess Your Skills; Identify information needs and competence/knowledge gaps EF.5 Understand My Computer; Understanding computer and peripheral components; basic troubleshooting; using an OS	**I can** verbally explain to their elbow partner how to login to the classroom computers.

Materials to prepare:
- (Recommended) Projector
- Instructor made handout to display class computers' login screens
- Printed Self-Evaluation Emoji Set (one per learner)

Vocabulary & Concepts Introduced in Lesson

Login (n) Log in/out (v)	Sign in/out (v) Log on/off (v)	Password Username

Lesson Plan:
1. Review & Warm-up
2. Keeping your computer safe
3. Logging into your computers
4. Evaluation

Review & Warm-up:

Community Building: Circle up. Quiz learner's on each other's name. **Ask**: What did we do in class last session? Can you show me what each port on the laptop is for?

Self Assessment: Instructor introduces the collection of printed emojis and asks learners to describe the different emotions. Each learner should have their own set of emojis. Ask: What does each emoji communicate? After the class agrees on the meaning of each emoji, the teacher reviews the lesson objectives with the learners:

> I can login to a computer using a password.

> I can logout of a computer.

> I can verbally explain to their elbow partner how to login to the classroom computers.

Learners each choose an emoji from their set to either place at their desk to communicate their level of comfort with the objective, or learners stand up and post their emoji on the board next to the corresponding objective. At the end of the lesson, the instructor should reference back to this assessment and check to see how student confidence levels changed.

Keeping Your Computer Safe

Ask: What are some things you do to keep safe?

Say: When we leave our homes, we need to lock the door behind us so that no one else can get inside and take any of our belongings.

Say: We need to keep our computers locked just like we keep our doors locked to keep everything inside safe.

Say: Computers use a special kind of lock to keep our information safe. This lock is called a **login.** A Login has two parts: a username and a password.

Project an example login on the board for students.

Say: A username is the name of the account. This could be your name or your email or something else.

> *User (n)*: A person or thing that uses something.

> *Username (n)*: The name of the person using the computer or service. The name of the account. (Similar to a bank account number)

Say: When you're trying to go home and you want to unlock your door, you always need to know if you're at the correct door. What door do you want to unlock?

Say: Your password is like your PIN--The key we use to unlock the door.

Logging in to Your Computer

Say: Login (noun) is a place to enter your key to unlock a place on your computer.

Ask: So, what do you think "to login" (verb/action) means?

Say: To login (v) is to enter that information and unlock the door.

Say: We have different ways of saying **login**. (write on the board--) Login = log on = sign in. All three of these mean the same thing.

Ask: If **to login** means to unlock, what do you think **log out** means? (to lock)

(write on the board) Log out = sign out = log off

Say: Let's go through all the steps to log in to your computers.

First *demonstrate* via projector. Then write the steps on the board. Go through all the steps one by one with the students. Steps can be adjusted for different login processes as needed.

1. Open your laptop (if the screen doesn't turn on, make sure to push the power button)
   - The first thing you will see is the lock screen (make sure to point out the important features of the lock screen: large picture background, time, date, etc.)
2. Push any key (usually a letter key or the spacebar works best)
   - *Door Analogy:* This is to see the lock.
3. Type the password. (Make sure to write and say the classroom computers' password)
   - *Door analogy:* This is like putting the key into the lock.
4. To turn the key and go into the computer, we can do 2 different things:
   1. Push the Enter key **or**
   2. Click on the arrow button right next to the password.
   - *Door Analogy:* This is like turning the key and opening the door.

Instructor Note: Have students repeat these steps until they get the hang of it. Use the lock shortcut (windows key + L as necessary to help students repeat logging in). This can be made into a game to help students get used to the flow. i.e. see who can login to their computer the fastest or ask the students to order the steps correctly.

Evaluation:

Place powered off laptops/computers in front of each student. Ask students to work in pairs to login. Assist those as needed, if applicable by using the door analogy steps.

Students self-assess. The teacher returns to the objectives and asks learners to find an emoji on their device or in their laminated set to describe how they feel on their learning in regard to each objective.

Challenge: For students that move through this evaluation quickly, ask them to write down the steps and the equivalent for logging in to their phone.