Basic Concepts: Computer Physical Components and Uses

Age(s) / Grade Level(s): Elementary

Subject(s): Technology

Length of time: 30-45 minutes

Curriculum Standards:

- RULE §126.8 Technology Applications, Grade 3, Adopted 2022
    - (12) Practical technology concepts--skills and tools. The student selects appropriate methods or techniques for an assigned task and identifies and solves simple hardware and software problems using common troubleshooting strategies. The student is expected to:
    - (A) communicate an understanding of terminology related to operating systems and network systems such as internet, intranet, wireless network, short-range wireless technology, and learning management systems;

Objective(s):

- The student will be able to describe the physical components of a computer
- The student will be able to state why people use computers

Materials Needed:

- Laptop and/or desktop computer

Lesson/Activity Sequence:

1. Today you will learn about the parts of a computer (if possible, do this with both a laptop and a desktop computer). Let's begin by exploring your laptop with your fingers:
    a. Power Port: Where you plug in the battery charger

b. Battery Charger: The charger, when plugged into an electrical outlet, gives your computer power

c. USB Port: Where you plug in your flash drive

d. Power Switch: How you turn on the computer

e. Headphone jack: place where you connect headphones

f. Keyboard: Where you type letters, numbers, and characters, as well as use modifier keys to carry out keyboard commands

g. Screen: Visual display on the computer

2. Excellent job! Have you ever tried plugging in your battery charger into the power port on your computer? If not, let’s try it! Now, take some time to connect the charger to an electrical outlet if you haven’t done this before.

3. Let’s talk about some concepts related to computers:

    a. Computers are tools we use to complete work for school or for our jobs. We use computers to write because we can share documents more easily this way than if we handwrite or braille them

    b. Hardware: Physical parts of a computer as well as internal parts that make the computer work

    c. Software: Programs (also known as applications) that are installed on the computer so that you can perform tasks

    d. Laptop vs. Desktop computer: Laptops are small and portable while desktops are much larger and cannot be moved easily

4. Excellent, let’s review what you’ve learned. I’m going to say the name of the part of the computer and I want you to put your finger on it!

    a. Power Port
    b. Battery Charger
    c. USB Port
    d. Power Switch
    e. Headphone jack
    f. Keyboard
    g. Screen

5. Great job! How can knowing this information help make you more independent on the computer?

How will I assess student progress?

- When asked, student independently locates different physical parts of the computer
- Student independently shows the ability to connect computer charger and plug into electricity outlet
- Student can explain why we use computers

Differentiation:

1. **Differentiate by Learning Modality**
   - **Tactile Learners:** Provide hands-on exploration with physical laptops and desktops, using raised labels or tactile markers on key parts (e.g., Power Port, USB).
   - **Visual Learners:** Offer diagrams, large-print posters, or digital visuals showing each part labeled.
   - **Auditory Learners:** Pair exploration with clear verbal descriptions and allow students to repeat or narrate what they are touching.

2. Differentiate by Complexity of Task

- **Beginner Level:** Focus on locating and naming 3 to 4 key parts (e.g., Power Port, Charger, Keyboard, Screen) and plugging in the charger.
- **Intermediate Level:** Introduce all listed parts, plus discussion about hardware vs. software and laptop vs. desktop differences.
- **Advanced Level:** Challenge students to explain what each part does, describe how to troubleshoot simple issues (e.g., charger not working), or identify parts inside the computer (RAM, hard drive, etc.).

3. Differentiate by Support and Scaffolding

- **High Support:** Use hand-under-hand guidance, step-by-step verbal/touch prompts, and pre-taught vocabulary paired with picture/word cards or tactile markers.
- **Medium Support:** Provide a checklist for students to independently find and label parts; offer hints when needed.
- **Low Support:** Allow students to work in pairs or independently to locate and explain all parts, then teach back to a peer or create their own diagram.

Next steps/lesson:

- Microsoft Word: Power On, Log In, Navigate the Desktop