

4565: Computing Foundations for a Digital Age

Unit 1

Day 4 Lesson Plan: Hardware Trading Cards – Introduction

Objective

Students will begin a collaborative research project to investigate computer hardware components and create digital trading cards that explain their function and design.

Word Bytes

- **Hardware** – The physical components of a computer system.
- **Motherboard** – The central board that connects and allows communication between all hardware components.

Materials

- Printed or digital list of components for drawing (optional)
- Google Slides Trading Card Template (optional for printing, shared via Google Classroom)

Activities

Intro to Hardware Mini-Lesson

- Briefly define hardware and explain how each part plays a role in a computer's overall function.
- Use a short video or slideshow to show visual examples of key components like CPU, GPU, RAM, hard drive, motherboard, etc.
- Sample video: [Computer Basics: Inside a Computer](#) (or teacher's preferred resource)

Trading Card Project Launch

- Introduce the project: Students will work in pairs to research and create a digital trading card for one computer component.
- Each card will include:
 - ☐ Name of the part
 - ☐ A picture
 - ☐ Its function in the computer
 - ☐ A fun fact or common example

- Randomly assign components by having students draw from a container or use a digital spinner.
- Example components:

CPU (Central Processing Unit)	Optical Drive (e.g., DVD/Blu-ray drive)
GPU (Graphics Processing Unit)	Sound Card
RAM (Random Access Memory)	Network Interface Card (NIC)
Hard Disk Drive (HDD)	Wireless Network Card
Solid State Drive (SSD)	USB Ports
Motherboard	Input Devices (Keyboard, Mouse)
Power Supply Unit (PSU)	Output Devices (Monitor, Printer)
Cooling Fan	Webcam
Heat Sink	Speakers
Ethernet port	BIOS Chip

Set Up in Google Slides

- Share a Google Slides template through Google Classroom or manually have students set up slides with space for an image, description, and labels.
- Sample template: Make a Copy – [Hardware Trading Card Template](#)

Research Time Begins

- Pairs begin researching their hardware part using safe search practices.
- Encourage them to look up diagrams, example uses, and simple explanations of how their part fits into the system.
- [Guided Research Worksheet/Rubric](#)

Discussion Prompt

- "Why do you think computers need so many different parts working together?"
- "What might happen if one part failed or was missing?"
- Students add **“hardware”** and **“motherboard”** to their Word Bytes dictionary with examples.
 - **Suggested examples:**
 - Hardware – A mouse, keyboard, or screen
 - Motherboard – The main board that connects all parts of a computer