Jigsaw Group Worksheet – Chapter 2: Computer Hardware

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Instructions:

As you meet with each expert from the subtopics, listen carefully and complete the table below. You should finish with a summary of all 6 subtopics.

Summary Table

Subtopic	Key Points (Write 2–3 key facts)	Expert's Name
1. Introduction to Computer Systems & Hardware	- Computer system is a combination of hardware (physical devices) and software (programs), allowing users to input data, process it, store it, and output results. - Hardware is important to store data, execute the software, performance, perform input/output operations and connectivity. - Types of hardware: input devices, output devices, storage devices and processing devices.	Aina

2. Input and Output Devices	- **Input devices**: Allow users to enter data or instructions into the device.
	  - Capture data/commands and send them to the device for processing.
	  - Ex: scanner, keyboard, mouse, microphone
	- **Output devices**: receive data from a device and present it to the user.
	  - receive the processed data and present it in visual, audio or printed form for the users.
	  - Ex: Printer, projector, monitor, speaker	

3. System Unit and Its Components	- System unit is the main enclosure that houses a computer's components; Internal hardware framework that provides protection, organization and connectivity for the component. - Major internal components:	Nicholas, Lee

	● **Motherboard**: main circuit board (connect all component together) ● **CPU**: performs calculation and executes instructions. ● **RAM**: temporary stores data and instruction; allow quick read and access. ● **Power Supply Unit**: convert electrical into power for the components ● **Storage devices**: stores permanent/temporary data ● **Expansion cards**: add additional functions - Key components for CPU: ● **Control Unit**: directs the operation of the processors ● **Arithmetic Logic Unit**: handles all mathematical calculations and logical comparisons ● **Registers**: holds data and instructions temporarily	
4. Storage Devices	- Storage devices allow information, files and programs to be stored for future retrieval. - There are two types of storage: ● **Primary storage**: Used for short-term storage/temporary data (RAM) ● **Secondary storage**: Long-term storage; data remains even when devices are turned off (SSD, HDD) - Different storage devices serve different speeds, capacity and cost.	Hariz, Sunddra
5. Ports and Connectors	- **Ports**: sockets that connect external devices to the system unit (connected directly to the system board). - **Connectors**: plugs/end of cable that go into the ports. - Function: to enable communication between devices (Used for transferring data, charging, audio/video output and internet connection) - Standard ports: USB, ethernet, HDMI	Betty

	- Specialized port: VGA & DVI, MIDI, FireWire	
6. Care and Maintenance of Computer Hardware	- Maintaining hardware can help to enhance performance, extend lifespan and data security and protection. - Common problems of hardware devices: ● **Data loss**: hardware failure, malware, accidental deletion; Do regular backup to avoid data loss ● **Electrical problem**: Outdated wire, overload circuit; Do regular inspection to avoid electrical problems - Can maintain the hardware by doing exterior cleaning and internal cleaning.	Amir

Reflection (Answer in 1–2 sentences)

1. **Which subtopic did you find most interesting, and why?**

   The subtopic of "*System unit and its components*" was most interesting because it helped me understand what is inside the computer and how each part works together to process the data, command and information. Learning about components like the CPU, RAM, and motherboard gave me a clearer idea of how a computer is functioning.

2. **What is one thing you learned today that surprised you?**

   One thing that surprised me was that upgrading the performance of a computer depends more on the RAM and motherboard than on the SSD or HDD. I always thought that having more storage would make the computer faster, but I discovered that it's actually the RAM that affects how quickly programs run. Also, the motherboard determines how much RAM and what type of CPU a system can support, so it plays a big role in overall speed.