Components of a computer system

Core Competency:
Use the computer system to perform various tasks.

Element:
Describe the major components of a computer system and their functions.

Performance Criteria:
• Describe the major components of a computer system

Purpose of Activity:
To help students recognise and differentiate between hardware and software.

Learning Outcomes:
By the end of this lesson, students should be able to:
• Identify hardware and software components
• Describe the functions of each component

Resources and materials:
• Real or dummy computer parts
• Flashcards
• Projector or interactive screen (Interactive Flat Panel Display) - OPTIONAL
• Pictures or posters of computer components

Implementation guidelines:
1. Begin with a brief discussion:
    • "What are the parts of a computer?"
        - Explain that these refer to the external physical devices you interact with.
        - Examples: mouse, keyboard, monitor, printer, speaker.
    • "What are the components of a computer?"
        - Explain that these refer to the internal elements to make the computer function.
        - Examples: CPU, memory / storage devices, motherboard.

2. Show real items or images of the components.

3. Introduce the main parts:
   - Input devices (keyboard, mouse)
   - Output devices (monitor, printer)
   - Central Processing Unit (CPU – the brain of the computer)
   - Memory (RAM, ROM)
   - Storage (Hard disk (HDD), Solid State Disk (SSD))
   - Software (Operating system (Windows, Android, IOS), Application software (Apps, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Games)
     - Example: A pen drive is a hardware that can be seen and touched, but the program inside the pen drive (software) can only be seen through a medium but cannot be touched.

4. The teacher names each hardware component and asks students to repeat the same by showing or pointing at the specific component.
5. Engage students in a matching game using flashcards.
   - Divide students into groups/pairs.
   - Provide flashcards depicting images and functions separately.
   - Provide guidelines for the exercise.
   - Get the students to work.
   - Students present their work to the whole class.
6. Class discussion on how these components work together.

Assessment:
- Activity 1: Categorise the components into hardware and software.

Steps

1. Provide the students with an A4 size paper.
2. Ask them to draw a line in the middle to divide the page into 2 halves.
3. On the left-hand side write "HARDWARE" and on the right-hand side write "SOFTWARE".
4. Cut the pictures (provided in student worksheets) and stick them to the appropriate column.
5. Present their work to the whole class.

Extension of activity:
- Show students the components in a computer lab.
- Allow students to draw and explain the computer system in their own words.
- Explore different types of software and their uses.