

Individual Lesson Plans

Teacher: Tymond Tran

Course: Design and Technology 1

School Year: 2011-2012

Unit:

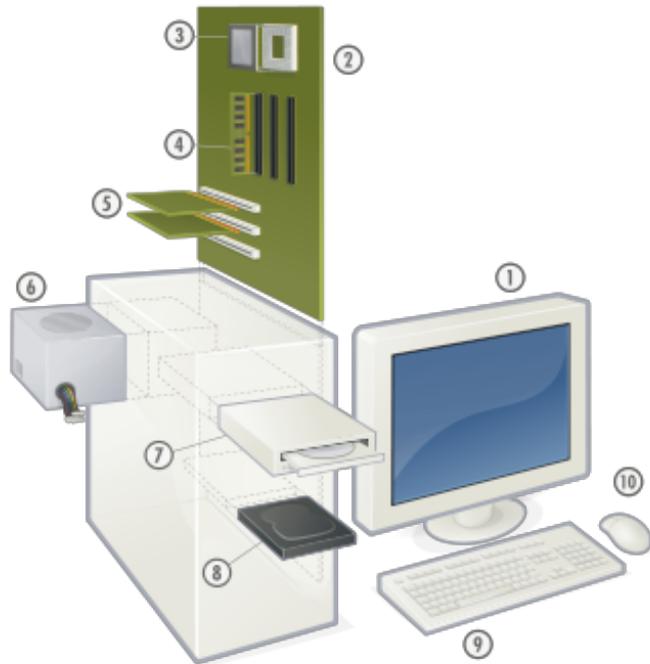
Lesson:

Learning Goals:

1. I can define Hardware and Software.
2. I can identify various software applications.
3. I can differentiate between internal and external hardware.

Starter* (Building on Background Knowledge):

Students will Label the Image displayed below from 1-10 and explain in a minimum of one sentence why they are all similar. (Prompt: all the images below have one thing i common; what is it).



UA Gateway Unit Planning Guide

Student: 1. Monitor

Student: 2. Motherboard

Student: 3. PROCESSOR/CPU

Student: 4. RAM

Student: 5. Expansion cards

Student: 6. Power supply

Student: 7. Optical disc drive

Student: 8. Hard disk drive

Student: 9. Keyboard

Student: 10. Mouse

Student: The components in this image are all the same because each component is considered hardware.

Motivation:

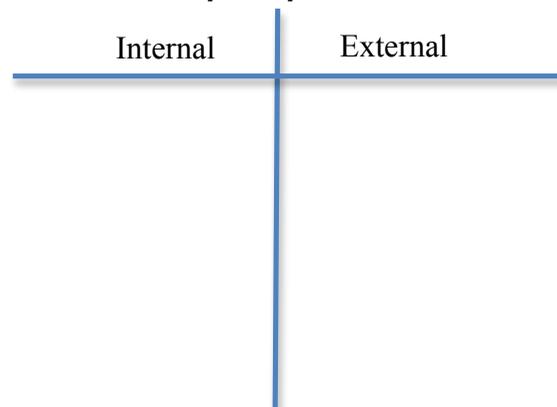
In the front of the room, I will have displayed a few examples of Hardware devices, as well as a Compact Disc (CD). I will then ask the students which items are considered hardware, and which items are considered software? Students will more than likely respond that: the CD is considered software, and that the other items are considered hardware. I will then respond by telling them, that all the items on the table are all considered hardware devices. There is an easy way to distinguish between hardware and software, which is what they will be discovering during today's lesson.

I will then elicit the Aim and then have students read aloud the Goals for the day's lesson.

AIM: What is the difference between hardware and software?

Mini-Lesson ("I do"):

Teacher will then prompt students to create a t-chart modeling the following:



* Indicates a formative assessment.

Teacher: Which hardware components attach directly to a computers motherboard?

Student: RAM

Student: Video Card

Student: Floppy Disk Drive

Student: Optical Drive

Student: Power Supply

Student: Processor

Student: Heat Sink

Student: Hard Disk

Teacher: These are all considered Internal Hardware Components and fits into the internal section of our T-Chart.

Teacher: Which hardware devices are external to the computer system?

Student: Monitor

Student: Printer / Scanner

Student: USB/Flash Drives

Student: Mouse

Student: Keyboard etc.

Teacher: With these in mind, how can we define the term Hardware?

Student: We could define the term hardware as anything that you physically touch on a computer system.

Student: We could define the term hardware as peripheral devices.

Student: We could define the term hardware as anything that you can physically attach to your computer system or motherboard.

Teacher: What are some examples of software programs?

Student: Students responses will vary.

Teacher: Why do we need software applications?

Student: We need software programs to make our computer systems run and to perform various functions.

Student: You would need to download software when setting up your CPU with a

New operating System,

Student: installing an application,

Student: or setting up a new device.

Teacher: How would we define the term Software?

Student: We would define the term Software as a collection of computer programs and data that provide the instructions for telling a computer what to do and how to do it.

Teacher: What is difference between hardware and software?

Student: Hardware are physical components of a computer system, and software is invisible programs we install onto a system.

Guided Practice (“We do”):

On another sheet of loose-leaf paper, create a separate T-Chart as shown on the smart board. Begin listing examples of hardware devices as well as software programs. What is an example of each? Why is each of the items we listed considered hardware or software?

Teacher: Software programs actually fall under 3 categories. Today we will take a look at the three categories in our activity.

Independent Activity (“You do”) - 15 Minutes

List 8 examples of Hardware and 8 examples of Software. Pick 5 of the listed components and explain why they fall under that category of software or why they fall under the category of hardware. Write a minimum of 1 sentence for each explanation.

Extension: List 10 examples of each and explain 7.

Summary / Share:/Exit Task*:

Teacher: How do we define the terms hardware and software?

Student: Hardware is anything that can connect to the motherboard

Student: Software is a collection of computer programs and related data that provide the instructions for telling a computer what to do and how to do it.

Teacher: How is Internal Hardware different from external hardware?

Student: Internal Hardware is different from the Computer system Hardware because it is the components inside of the CPU Vs. External Hardware being on the outside of the system.

Teacher: What is the difference between hardware and software?

Student: Hardware is the physical components of a computer system, and software are programs and data on the system. (Physical and Invisible)

What are the 3 types of software? Explain.

Software is divided into three primary groups: system software, utility software, and application software.

Finalize your answers to the activity, which will be collected on your way out.

Homework: Please study for Mondays Midterm Exam using the midterm package and answer sheet and via the Gnomio website Practice Test.

* Indicates a formative assessment.