**Student Questions**

Learn about the internals of a standard PC case by examining physical samples and selecting and labeling images found on-line. Gain deeper knowledge by researching and reporting on specific components.

PC Tower Case

1. Find one (or more) images that clearly show the internals of a PC Tower Case.   
   (i.e. Google images using keywords “PC Case Internals”)



< C) Hard Disk Drive

< I) Cooling Fan

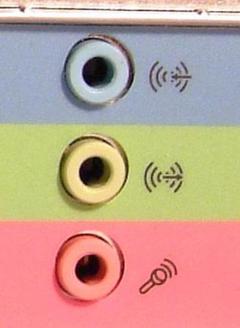
< B) Power Supply

< A) Motherboard



< F) USB Expansion Ports

< D) Optical Disk Drive



< G) Audio Ports



< H) Ethernet Port

1. Clearly label the following components (using arrows) on your image of the PC case internals:
   1. Motherboard
   2. Power Supply
   3. Hard Disk Drive
   4. Optical Disk Drive (e.g.DVD)
   5. USB Expansion Ports
   6. Monitor Port
   7. Audio Ports
   8. Ethernet Port
   9. Cooling Fan
2. Research more in-depth about “Hard Disk Drives”. Make notes on the following:
   1. What different versions are currently available (speed and capacity)

- There are two general types of hard drives: hard disk drives (HDD), which use one or more rotating discs and rely on magnetic storage, and solid-state drives (SSD), which have no moving mechanical parts, but use flash memory like the kind found in USB flash drives.

* 1. How the capacity of the component has changed since the 1980’s

- In 1980, IBM produced the first gigabyte-capacity disk drive, the 3380. This hard drive weighed over 500 pounds and had a 2.5GB capacity.

PC Motherboard

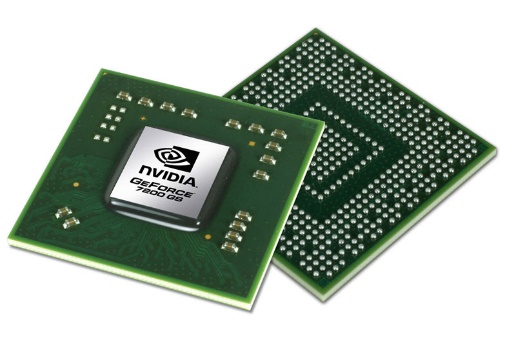
Disk Drive Interface C) >

< A) CPU and Fan

1. Find one (or more) images that clearly show the layout of a PC Motherboard.   
   (i.e. Google images using keywords “PC Motherboard”)

< B) RAM Memory

1. Clearly label the following components (using arrows) on your image of the PC motherboard:
   1. CPU (and fan)
   2. RAM Memory
   3. Disk Drive Interface (IDE or SATA)
   4. GPU Graphics Processor (either on-board or Graphics Card)
   5. Sound Processor (either on-board or Sound Card)
   6. Wi-Fi / Ethernet Network Interface (either on-board or Graphics Card)


< E) Sound Processor

< D) GPU Graphics Processor



< F) Wi-Fi / Ethernet Network Interface

Peripheral Devices

1. Find one (or more) images that clearly show the layout of the back of a typical PC tower case.   
   (i.e. Google images using keywords “Back Of PC Tower”)  
   

< G) Ethernet Interface

< F) Audio Inputs/Outputs

< E) USB Ports

< CD) Mouse and Keyboard Interface

Monitor Interface B) >

Power Switch A) >

1. Clearly label the following components (using arrows) on your image of the back of a typical PC tower case:
   1. Power cord and power switch
   2. Monitor Interface (VGA or DVI or HDMI)
   3. Mouse Interface (USB or PS/2)
   4. Keyboard Interface (USB or PS/2)
   5. USB Ports
   6. Audio Inputs / Outputs
   7. Ethernet Interface

1. Research more in-depth about “External Portable Storage”. Make notes on the following:
2. Floppy Disks

-  A flexible removable magnetic disk, typically encased in hard plastic, used for storing data

1. CD-ROM / DVD / Recordable CD/DVD

- A type of compact disc able to store large amounts of data, especially high-resolution audiovisual material.

1. USB Memory Drives

- A USB Dive is a small, removable hard drive that plugs into a USB port on your computer

1. Compact Flash Memory

- A CompactFlash card (CF card) is a memory card format developed by SanDisk in 1994 that uses flash memory technology to store data on a very small portable device.

1. Cloud Based Storage

- Cloud storage is a cloud computing model in which data is stored on remote servers accessed from the internet

**Presentation Outline**

Explore the development and features of a specific PC hardware component through deeper research and investigation. Work in partners to create a short presentation. Deliver the presentation to the class.

Each group will research a unique PC hardware component. Your specific topic will be assigned from the list provided below.

**Presentation Structure**

1. Explain what the PC component does and how it fits together with other components to make up a fully functioning PC.
2. Explain how the PC component works. Provide a diagram (image) showing the main parts of the component.
3. Research the current state of the art of the component in terms speed, capacity (size), and other related factors.
4. Research on-line suppliers that sell the PC Component. List the specifications for the available products and the cost (price).
5. Research how the PC component has changed and evolved since the early days of PCs in the 1980’s. Cover each of the following topics separately:
   1. Component Speed
   2. Component Size / Capacity
   3. Two other specifications specific to the PC component (ask Mr. Nestor)