**Level 1: PC Tower Case**

**Outline**

**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.**

**Questions**

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”)**
2. **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**
3. **Research more in-depth about “Motherboards”. Make notes on the following:**
   1. **What different versions are currently available (speed and capacity):**

-Currently, most computers have an ATX type, which is the layout and the size of the motherboard itself. Motherboards do not have any specific speed; their speed is dependent on how fast the CPU and the RAM are.

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

**-**In 1981, the first ever motherboard was introduced into the world by IBM. It was called Planar. It only contained slots to connect the CPU and the RAM. It was also knows as the ‘IBM compatible’ standard. Most motherboards today are all ‘IBM compatible’ standard. The modern motherboard is different from the one in 1981 in several ways. In the 1990’s the Motherboards started to include Integrated circuits to add peripherals such as a mouse and a keyboard at very low power consumption. Motherboards today come in different sizes and have multiple expansion slots. These expansion slots can be used to add more components, specifically designed for higher quality/performance of the computer.

1. **Research more in-depth about “Hard Disk Drives”. Make notes on the following:**
   1. **What different versions are currently available (speed and capacity)**

Most hard disks today have a speed of either 5400rpm or 7200rpm.

They usually range between 512GB to 4TB in storage.

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

From the 1980’s, the speed and the capacity of this component has changed. In the 1980’s, hard disks only used to be about 10MB and have very slow speeds. By the 1990’s the size of the hard disks increased from 2.5 in to 3.5 in. The speed and the capacity have kept progressively increasing from the 1980’s.

**Level 2: PC Motherboard**

**Outline**

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

**Questions**

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

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)

1. Research more in-depth about “CPU Processor Chip”. Make notes on the following:
   1. What different versions are currently available (speed and capacity)
   2. How the component has changed since the 1980’s
2. Research more in-depth about “RAM Memory”. Make notes on the following:
   1. What different versions are currently available (speed and capacity)
   2. How the component has changed since the 1980’s

**Level 3: Peripheral Devicesss**

**Outline**

Learn about how peripheral devices are connected to the back side of a typical PC tower case. Examine physical samples, select and labeling images found on-line and gain deeper knowledge by researching and reporting on specific components.

**Questions**

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”)
2. 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 “Monitor Technology”. Make notes on the following:
   1. What different versions are currently available (e.g. VGA / DVI, Flat Panel Technology))
   2. How the component has changed since the 1980’s (e.g. Display Resolution, Technology)
2. Research more in-depth about “External Portable Storage”. Make notes on the following:
   1. Floppy Disks
   2. CD-ROM / DVD / Recordable CD/DVD
   3. USB Memory Drives
   4. Compact Flash Memory
   5. Cloud Based Storage