**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)

-XT Motherboards(eXtended Tecgnology)

-AT Motherboards(Advanced Technology)

-ATX Motherboards(Advanced Technology eXtended)

-Baby AT Motherboards(Mix of XT and AT Motherboards)

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

-More devices and components have been added to the motherboards.

-If some part needed to be replaced, the whole motherboard would have to be replaced. But now any part can be replaced easily.

-Performance became faster.

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

-Parallel Advanced Technology Attachment (PATA)

-Serial ATA(SATA)

-Small Computer System Interface(SCSI)

-Solid State Drives (SSD)

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

-Hard disk drives reached a capacity of 1 TB after 50 years and has increased its capacity further than that too.

-The size has decreased and capacity has increased.

-The cost of hard disk drives consisting of a lot of storage has decreased over the years.

**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”)
2. 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)

-Budget processors

-Mainstream processors

-Dual-core processors

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

-The speed of the processors became more over time.

-Started to offer power friendly features.

-Increased performance.

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

-DRAM (Dynamic Random Access Memory)

-SRAM (Static Random Access Memory)

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

-Amount of RAM memory that can be stored has increased.

**Level 3: Peripheral Devices**

**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))

-CRT (Cathode Ray Tube)

-LCD (Liquid Crystal Display)

-LED (Light-Emitting Diodes)

* 1. How the component has changed since the 1980’s (e.g. Display Resolution, Technology)

-The screens used to be small and very thick in size.

-Monitors were very heavy to pick up.

-Monitors now-a-days offer many new features then before.

-Monitors work faster than before.

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

Floppy disks were thin and flexible magnetic type used for storage. It was sealed in a rectangular plastic enclosure lined with fabric that removes dust particles.

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

CD-ROM is Compact Disc Read-Only Memory. ROM states that the disc can only be read not changed or altered. DVD is a digital optical disc storage format.

* 1. USB Memory Drives

Stores memory and uses the technology of flash memory.

* 1. Compact Flash Memory

It’s a flash memory mass storage device used mainly in portable electronic devices.

* 1. Cloud Based Storage

A cloud computing model in which data is stored on remote servers accessed from the internet, or “cloud”.