(I.) What is the difference between Hardware and Software?

**Hardware:** Computer hardware refers to the mechanical parts of a computer and any devices attached to it. Hardware can be found inside and outside of the computer system. The mouse, keyboard, printer, RAM and monitor are all hardware devices.

**Software:** Computer software are programs and applications that run on computers. They are usually purchased on a disc and are installed onto the computer system. Microsoft Word, Excel, Powerpoint, Publisher and Internet Explorer are all software programs.

**Parts of the computer - External (Outside) Hardware**

1. **Monitor** - the computer screen or display that allows the user to view the software operations is know as the monitor. It is the part of the computer that we monitor (watch) with our eyes.

2. **Modem** - A modem is a communications device that can be either inside or outside of your computer. It allows one computer to connect another computer and transfer data over telephone lines. The old dial-up modems are becoming obsolete because of slow speeds and are being replaced by much faster cable and DSL modems.
3. **CPU** – The **Central Processing Unit** is the part of the computer that contains the processor chip which is actually the brain of the computer. It processes information and sends commands to all of the devices attached to it.

4. **Mouse** – The mouse is an input device used by computers to control the user’s motion. It controls the movement of the pointer, cursor, and has buttons that click to make on-screen selections.

5. **Speakers** - Speakers are output devices used with computer systems. They receive audio (sound) input from the computer's sound card and produce audio output in the form of sound waves. Most computer speakers allow you to increase the volume, or amplitude, of the sound. Speakers usually come in pairs, which allows them to produce stereo sound from two separate audio channels.

6. **Printer** - A printer is an output device that prints documents from a computer. Common printers include inkjet and laser printers. Inkjet printers use ink and have much cheaper prices, while laser printers use toner and are more expensive to purchase. Both can produce black and white as well as color images on paper.

7. **Keyboard** - A keyboard is basically a board of keys. Along with the mouse, the keyboard is one of the primary input devices used with a computer.

**Parts of the computer - Internal (Inside) Hardware**
8. **Hard Drive** - the hard drive is what stores all of your data. It houses the hard disk, where all your files and folders are physically located. A hard drive is only slightly larger than the palm of your hand, yet can hold over 100 GB of data.

9. **Motherboard** - The motherboard is the main circuit board of your computer and is also known as the main board or logic board. If you ever open your computer, the biggest piece of silicon you see is the motherboard. Attached to the motherboard, you'll find the CPU, ROM, memory RAM expansion slots, PCI slots, and USB ports. It also includes controllers for devices like the hard drive, DVD drive, keyboard, and mouse. Basically, the motherboard is what makes everything in your computer work together.

10. **Video Card & Sound Card** – the video card can be used to process graphics and video images separately from the processor in order to give the processor a break. It can speed up the graphics building process for image editing, graphic design and video game programs. The sound card is a component inside the computer that provides audio input and output capabilities. Most sound cards have at least one analog line input and one stereo line output connection.

11. **R.A.M.** – Stands for "Random Access Memory," and is pronounced like the male sheep. RAM is made up of small memory chips that form a memory module. These modules are installed in the RAM slots on the motherboard of your computer. Every time you open a program, it gets loaded from the hard drive into the RAM. This is because reading data from the RAM is much faster than reading data from the hard drive. Running programs from the RAM of the computer allows them to function without any lag time. The more RAM your computer has, the more data can be loaded from the hard drive into the RAM, which can effectively speed up your computer.

12. **Processor** - This little chip is the heart and brain of a computer. Also referred to as the "microprocessor," the processor does all the computations such as adding, subtracting, multiplying, and dividing.
**Additional Hardware**

Here are several other hardware peripherals we will be using this year:

13. **CD-ROM** - Stands for “Compact Disc Read Only Media.” A CD-ROM is a CD that can be read by a computer with an optical drive. The “ROM” part of the term means the data on the disc is “read-only,” or cannot be altered or erased. CD-ROMs are a great media format for software programs and can hold up to 700 MB of data. CD ROMs share the same technology as audio CDs, but they are formatted differently.

14. **DVD-ROM** – Stands for “Digital Versatile Disc Read Only Media.” DVD can also stand for “Digital Video Disc,” but with the multiple uses of DVDs, the term “Digital Versatile Disc” is more correct. A DVD is a high-capacity optical disc that looks like a CD, but can store much more information. While a CD can store 650 to 700 MB of data, a single-layer, single-sided DVD can store up to 4.7 GB of data (4,700 MB). This enables large computer programs and full-length movies to be stored on a single DVD.

15. **Scanner** – A scanner is an input device that copies documents and images, which can be imported into a computer. They are available in flatbed or sheet-fed versions and are usually available with color capabilities.

16. **Digital Camera** – A digital camera is an electronic device that captures images in a digital format. It works in a similar way to a film-based camera, but uses a sensor called a CCD to record images rather than a strip of film. Once an image is captured by the CCD, it is saved to a memory card, such as an SD card. Images saved to the memory card can be imported into a computer using a USB cable.

17. **Digital Video Camera** – A DV camera is similar to a digital camera, but records video and sound instead of still images. The video is digitized and stored on video cassettes or SD cards. Once the video is imported into a computer system, the video can be edited into a complete production with additional graphics, music and special effects.

18. **Digital Video Projector** – A DV projector is an image projector that receives a video signal and projects the image on a projection screen using a lens system.
Basic Computer Skills Quiz
Mr. Baldwin – Computer Teacher

Write the name of each external part of the computer on each numbered line.

1. _________________________________
2. _________________________________
3. _________________________________
4. _________________________________
5. _________________________________
6. _________________________________
7. _________________________________
8. What is the difference between Hardware and Software?

9. Which of the following is an “Input Device?” Circle the correct answer.
   A. Monitor
   B. Printer
   C. Speakers
   D. Keyboard

10. Which of the following is an “Output Device?” Circle the correct answer.
    A. Projector
    B. Keyboard
    C. Scanner
    D. Mouse
11. ___________________________ - is the device that stores all of your data and is where all your files and folders are saved.

12. ___________________________ - This is the main circuit board of your computer. It is the biggest piece of silicon you will see inside of the computer.

13. ___________________________ – They are small memory chips that form a memory module. When you add more of these, your software programs will perform better and faster.

14. ___________________________ - This little chip is the heart and brain of a computer. It does all the computations such as adding, subtracting, multiplying, and dividing.

15. ___________________________ - It is a communications device that can be either inside or outside of your computer. It allows one computer to connect to the Internet and transfer data over telephone lines or cable television lines.
16. Which device is used to copy paper documents and photographs into the computer?” Circle the correct answer.

E. Monitor
F. Scanner
G. Projector
H. RAM

Circle “T” for True or “F” for False to answer each question below.

17. A 3D printer uses ink to print images from a computer. T F

18. The Google Drive is a hardware device. T F

Fill in the blank with the correct answer.

19. The letters R.A.M. stand for: __________________________________________.

20. The letters C.P.U. stand for: __________________________________________.