

## HARDWARE COMPONENTS

### CPU

1. CPU stands for \_\_\_\_\_.
2. If comparing a computer system to a human, the CPU would be the \_\_\_\_\_.
3. \_\_\_\_\_ and \_\_\_\_\_ are the two biggest CPU manufacturers for the PC. They have quite a history of competition including some impressive lawsuits.
4. The connections between the CPU and the socket are done via hundreds or thousands of \_\_\_\_\_ that allow for input and output into/from the CPU. These are sometimes on the CPU and other times on the socket. The input and output for each one is simply a high or a low voltage.
5. The location into which the CPU plugs in is called the \_\_\_\_\_ or \_\_\_\_\_. This is found on the motherboard. There are many different types of these. Examples are *Socket 7* (1994), *Socket H* (2009), *Socket LGA 1366* (2008).
6. The most important attribute in a CPU is the clock \_\_\_\_\_ or clock \_\_\_\_\_ or clock \_\_\_\_\_. However, since the mid-2000s, this has become a less important way to compare CPUs of different brands. More on this later.
7. The CPU's frequency is measured in \_\_\_\_\_. This is the amount of cycles per second. During each cycle, the CPU generally executes a command.
8. The short form for gigahertz is \_\_\_\_\_ and the short form for megahertz is \_\_\_\_\_.
9. The term hertz means \_\_\_\_\_ per second.
10. A CPU's job is to \_\_\_\_\_ the commands that it receives. The commands are lined up one after another waiting in line to get to the CPU.
11. Newer CPUs contain multiple \_\_\_\_\_. Each one is able to run its own commands. Therefore, multiple commands can be executed at the same time (in parallel). The introduction of this new technology has made comparing CPU speeds more difficult.

### MOTHERBOARD

1. The motherboard is the hardware component where all computer \_\_\_\_\_ connect.
2. PCB stands for \_\_\_\_\_. The motherboard is the largest PCB in your computer. Other PCBs connect to it via expansion slots.
3. The CPU, \_\_\_\_\_ slots (for extra cards) and \_\_\_\_\_ slots (for memory) are all on the motherboard. (The CPU and memory will be discussed in their own sections.)

4. Motherboards now have integrated \_\_\_\_\_ cards to send information directly to your monitor. The quality of this built-in card is usually good but not the best for high graphics uses such as gaming.
5. Most motherboards now have integrated \_\_\_\_\_ cards to play good quality sound. In the past, motherboards could only “beep”. ☺
6. Motherboards now have integrated \_\_\_\_\_ cards to connect directly to a network. This is often used simply to get internet access.
7. The term \_\_\_\_\_ refers to a group of integrated circuits that are designed to work together. In computers, this usually refers to the motherboard’s specialized chips.
8. Best known and recognized motherboard manufacturers are:
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## RAM

1. RAM stands for \_\_\_\_\_. The “RA” refers to the fact that any data on the chip can be accessed in the same amount of time. An example of the opposite of this would be a tape back-up where data at one end can be accessed quickly but data at the other end requires the tape to be forwarded to that end before accessing it.
2. Each piece of RAM is called a \_\_\_\_\_, or a \_\_\_\_\_, or a \_\_\_\_\_.
3. RAM, like the hard drive, is a form of \_\_\_\_\_. While the hard drive stores all of the computer’s data, RAM stores system information that is soon likely to be used by the CPU.
4. The reason that RAM stores a part of the hard drive’s information is that RAM is \_\_\_\_\_ memory. It would delay the CPU too much to constantly make requests to the hard drive for information. Of course, the more RAM a system has, the more likely that required information will be stored in the RAM.
5. So if RAM is faster than a hard drive, why do we even have a hard drive? There are two reasons:
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6. RAM is said to be \_\_\_\_\_ memory because it is erased if it stops being powered.
7. RAM plugs into a slot that is on the \_\_\_\_\_. There are usually 2 to 4 slots for different RAM sticks to be plugged into.
8. The most common computer upgrade is to increase the amount of \_\_\_\_\_ in a computer. This is often done by simply adding another stick into an empty slot.

## HARD DRIVES

1. When comparing a computer to a human, the hard drive would be the human's \_\_\_\_\_.
2. All \_\_\_\_\_ is stored on the hard drive in the form of \_\_\_\_\_. This includes your operating system files, your application files, music files, game files, photo files, etc...
3. If your hard drive fails, you lose all your \_\_\_\_\_. In this sense, it is the one truly irreplaceable part of your computer. You can order another identical hard drive, but it won't contain your files.
4. \_\_\_\_\_, the abbreviation for hard drive, stands for \_\_\_\_\_.
5. Drives in computers are given a letter. The main hard drive in a computer is called the \_\_\_\_\_ drive. The letters A and B were reserved for floppy disk drives that are no longer in use.
6. The primary attribute of a hard drive is its \_\_\_\_\_.
7. A hard drive's size is measured in \_\_\_\_\_. The prefix mega means millions. The prefix giga means billions. The prefix tera means trillions. Mr. Campeau's first hard drive, in 1994, was 214 megabytes.
8. Here is a table showing the unit of measure and its abbreviation:

Unit	Abbreviation
Byte	_____
Megabyte	_____
Gigabyte	_____
Terabyte	_____

9. Another characteristic of hard drives is its \_\_\_\_\_ measured in \_\_\_\_\_. There are common values for this characteristic including 5400 (slow), 7200 (a long time standard) and 10000.
10. Inside the case, the hard drive sits inside a drive \_\_\_\_\_. This location can be identified from the front by a rectangular plastic cover. This cover could be removed if a CD or DVD or floppy drive were installed into that area instead.
11. A newer common trend is to buy an \_\_\_\_\_ hard drive for your personal files. It can then be plugged into any computer usually via USB connection and files can be accessed.
12. The container that holds an external hard drive is called an \_\_\_\_\_. Inside, you will find a normal hard drive that could be removed and installed inside a computer if one would want to.

## VIDEO CARDS

1. Another name used for a video card is \_\_\_\_\_ card.
2. The video card plugs in a(n) \_\_\_\_\_ on the motherboard.
3. \_\_\_\_\_ and \_\_\_\_\_ expansion slots were specifically built (invented) to support the high information transfer required by video cards. In the past, when video cards did not need as much bandwidth, they were plugged into regular expansion slots just like other cards.
4. The video card \_\_\_\_\_ data from the CPU to a format that is understood by the monitor. It saves the CPU time by allowing it to pass off some of the work.
5. Many motherboards include an \_\_\_\_\_ video card. This card is generally of lower quality than separately purchased ones.
6. The video card has its own CPU called \_\_\_\_\_ which stands for \_\_\_\_\_.
7. Main manufacturers are \_\_\_\_\_ and \_\_\_\_\_ (which use to be ATI).
8. As of 2010, \_\_\_\_\_'s main selling point is 3D technology. \_\_\_\_\_'s main selling point is Eyefinity (multiple monitors to form a field of view)
9. Characteristics that are to be considered when purchasing a video card are:
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10. \_\_\_\_\_ and \_\_\_\_\_ are technologies that allow for multiple video cards in one system to work together. These technologies have to be supported by the motherboards. This can increase the performance of a single monitor or multiple monitors.