**Computer components**

Motherboard:

Known as the ‘backbone’ of a PC

Communicates with other components

CPU:

Central processing Unit

Acts as the brains of computer processing

Secondary Storage:

SSD, HDD, Hybrid Drives, USB drives, Disks, tapes, etc.

Any secondary data storage device attached to the computer to the computer other than the RAM. These store data long term and persist when the computer is turned off.

RAM:

Random access memory

When you double click an icon on windows to run a program, the program, which is usually stored on the computer’s hard disk drive, is loaded into the RAM memory which is temporary storage.

RAM is volatile and holds any needed running program data.

Even the fastest RAM memory isn’t as fast as the CPU. If you take DDR3-3066 memory-it transfers roughly 10,667 MBps (An SSD, even a fast one is about 1000MBps)

Chache:

RAM isn’t fast enough, so we use cache memory

Fast easily accessible memory that resists directly integrated with the CPU or right next to it.

Commonly used instructions can be stored in the cache meaning a big cache can hugely boost speed of execution.

Cache is often split into multiple types L1, L2, L3 etc.

Memory Hierarchy:

Fastest to Slowest:

Reg

L1 cache

L2 cache

RAM

Secondary memory

Processing:

When we talk about processors we often mean “microprocessors”

Basic job is to receive input and transform it into a corresponding output.

Easy? Most CPUs can do this billions of times per second – this is what we mean by clock speed

Clock speed:

Refers to the speed at which the processor can execute instructions.

Multi Core:

A multi core processor links multiple processors into one single chip

They share some resources and parts

Data is stored in the arithmetic ACCUMULATOR register

Inputs take external influences and convert them into some sort of data.

Outputs take some sort of data and convert them back into some sort of external influence.

Both of these usually run through ports.

The difference between Computer, Console, and Phone motherboards is that computer motherboards are bigger and can be changed with more freedom, while console and phone motherboards are specialized and very small. The RAM for example, on a computer would be a stick going out of it, however the other two have It integrated into the motherboard, making it harder to change.

Mobile and TV difference:

TV’s are bigger, however they are getting thinner and thinner so they need to preserve space with their motherboards, however because of the space they have, they can fit more things on a larger motherboard, such as an SSD, full HD, but their RAM is stuck on just like on a phone.

Classifying devices such as a server, mobile device, smart device and PC as a role isn’t a good way because they have similar hardware, and can all do similar function, it’s just a matter of how much you can edit and change them.

The way they look could be a good way to classify those devices, because they are all different in sizes and the way they look, and it can always be changed.