# Core Hardware Components

## Illustrate the basics of computing and processing

### Input

### Processing

### Output

### Storage

## Compare and contrast common units of measure

### Storage Unit

#### Bit

#### Byte

#### KB

#### MB

#### GB

#### TB

#### PB

### Processing speed

#### MHz

#### GHz

## Explain the purpose of common internal computing components

### Motherboard/System board

#### Connects all other components

#### Printed circuit board

##### Conductive series of pathways laminated to a nonconductive substrate that lines the bottom of the computer

#### All other components attached to it

##### Some physically that can’t be removed

###### Underlying circuitry

###### CPU Socket

###### RAM slots

###### Expansion slots

Video card

Network card

###### Other chips

##### Some physically that can be removed

###### CPU

###### RAM

##### Some via connectors

###### Hard drives

###### Power supplies

##### Smaller boards might have video card, network card and CPU physically integrated rather than have slots

#### Form factors

##### Most common

###### ATX – Advanced Technology Extended

###### Micro ATX

###### ITX

Collection of small form factor boards

#### Chipset

##### Collection of chips or circuits that perform interface and peripheral functions for the processor

#### CPU Socket

#### Memory slots

##### RAM – primary memory used to store currently used data and instructions for the CPU

##### Cache memory

###### Between the CPU and RAM

###### Predicts what CPU will ask for next and prefetches info before being asked

###### Not removable

### Firmware/BIOS

### RAM

### CPU

#### ARM

##### Mobile phone

##### Tablet

#### 32-bit

##### Laptop

##### Workstation

##### Server

#### 64-bit

##### Laptop

##### Workstation

##### Server

### GPU

### Storage

#### Hard Drive

#### SSD

### Cooling

### NIC

#### Wired vs wireless

#### Onboard vs add-on card

## Compare and contrast storage types

### Volatile vs non-volatile

### Local storage types

#### RAM

#### Hard Drive

##### Solid state vs spinning disk

#### Optical

#### Flash drive