The Modern Computer

Total points 2

1. Where does the CPU store its computations? **1 / 1 point**

- (•) Registers
- ( ) Binary
- ( ) Processor
- ( ) External Data Bus

Correct
Correct! When the CPU does computation, it stores information in registers first.

2. Which mechanisms do we use to transport binary data and memory addresses? Check all that apply. **1 / 1 point**

- [ ] DBus
- [x] The External Data Bus

Correct
You got it! The EDB is used to transport binary data and the Address Bus is used to transport memory addresses.

- [ ] School Bus
- [x] Address Bus

Correct
You got it! The EDB is used to transport binary data and the Address Bus is used to transport memory addresses.

Components

Total points 4

1. What characteristics distinguish a Solid State Drive from a Hard Disk Drive? Check all that apply. **1 / 1 point**

- [x] Smaller form factor

  Correct
  Right on! SSDs have non-moving parts, are a smaller form factor, and also utilize non-volatile memory.

- [ ] Uses Disk Platters
- [ ] High RPMs
- [x] Non-moving parts

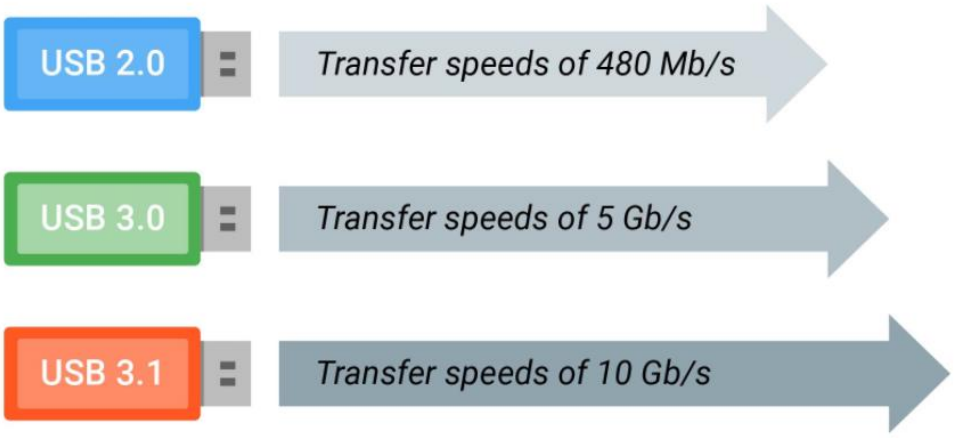
  Correct
  Right on! SSDs have non-moving parts, are a smaller form factor, and also utilize non-volatile memory.

2. True or false: If you plug in a 220v appliance into a 120v outlet, the appliance could get damaged. **1 / 1 point**

- (•) TRUE
- ( ) FALSE

Correct
You got it! While plugging a 220v appliance into a 120v outlet won't cause immediate harm to your appliance, it could still cause appliance deterioration.

3. How long will it take to transfer a file size of 1GB on a USB 2.0 and a USB 3.0 drive? **1 / 1 point**



- ○ ~ 20 seconds on a USB 2.0 drive; ~.02 seconds on a USB 3.0 drive
- ○ ~17 seconds on a USB 2.0 drive; ~.02 seconds on a USB 3.0 drive
- ○ ~20 seconds on a USB 2.0 drive; ~2 seconds on a USB 3.0 drive
- ◉ ~ 17 seconds on a USB 2.0 drive; ~2 seconds on a USB 3.0 drive

Correct
Great job! Theoretically, USB 2.0 has a bandwidth of 480 Mb/s, which is roughly 60 MB/s. It would take around 17 seconds to transfer 1024 MB of data.

Starting It Up

Total points 4

1. What is the difference between a ROM chip and a RAM chip? Check all that apply. **1 / 1 point**

- [ ] A ROM chip stores temporary data. A RAM chip stores permanent data.
- [x] A ROM chip is non-volatile and will keep its data in the case of a power failure. A RAM chip is volatile and will wipe its data in the case of a power failure.

Correct
Correct! A ROM chip stores permanent data and will keep its data if there is a power failure. A RAM chip stores temporary data and will wipe its data in a power failure.

- [ ] A ROM chip is volatile and will wipe its data in the case of a power failure. A RAM chip is non-volatile and will keep its data in the case of a power failure.
- [x] A ROM chip stores permanent data. A RAM chip stores temporary data.

Correct
Correct! A ROM chip stores permanent data and will keep its data if there is a power failure. A RAM chip stores temporary data and will wipe its data in a power failure.

2. Which of these functions does the BIOS perform? Check all that apply. **0.75 / 1 point**

- [x] Initializes hardware

Correct
Excellent! The BIOS performs a POST to check what devices are connected to the computer. It also initializes hardware on boot.

- [x] Checks what devices are connected to the computer

Correct
Excellent! The BIOS performs a POST to check what devices are connected to the computer. It also initializes hardware on boot.

- [x] POST

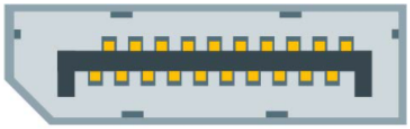
Correct
Excellent! The BIOS performs a POST to check what devices are connected to the computer. It also initializes hardware on boot.

- [x] Installs drivers

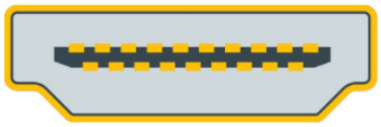
This should not be selected
The BIOS checks for drivers but it does not install them.

4. Which of these is used to charge devices? Check all that apply. **1 / 1 point**

USB A



DisplayPort



HDMI Port

USB C

- [x] Picture of USB A.

Correct
Well done, you! These are types of USB ports.

- [ ] Picture of DisplayPort.
- [x] Picture of USB C.

Correct
Well done, you! These are types of USB ports.

3. Where are your BIOS settings stored? **1 / 1 point**

- ( ) Flash drive
- (•) CMOS chip
- ( ) Hard drive
- ( ) RAM

Correct
Wohoo! Your BIOS settings are stored in the CMOS chip.

4. What is the difference between a traditional BIOS and UEFI? Check all that apply. **1 / 1 point**

- [ ] A traditional BIOS has better compatibility with newer hardware.
- [x] UEFI has better compatiblity with newer hardware.

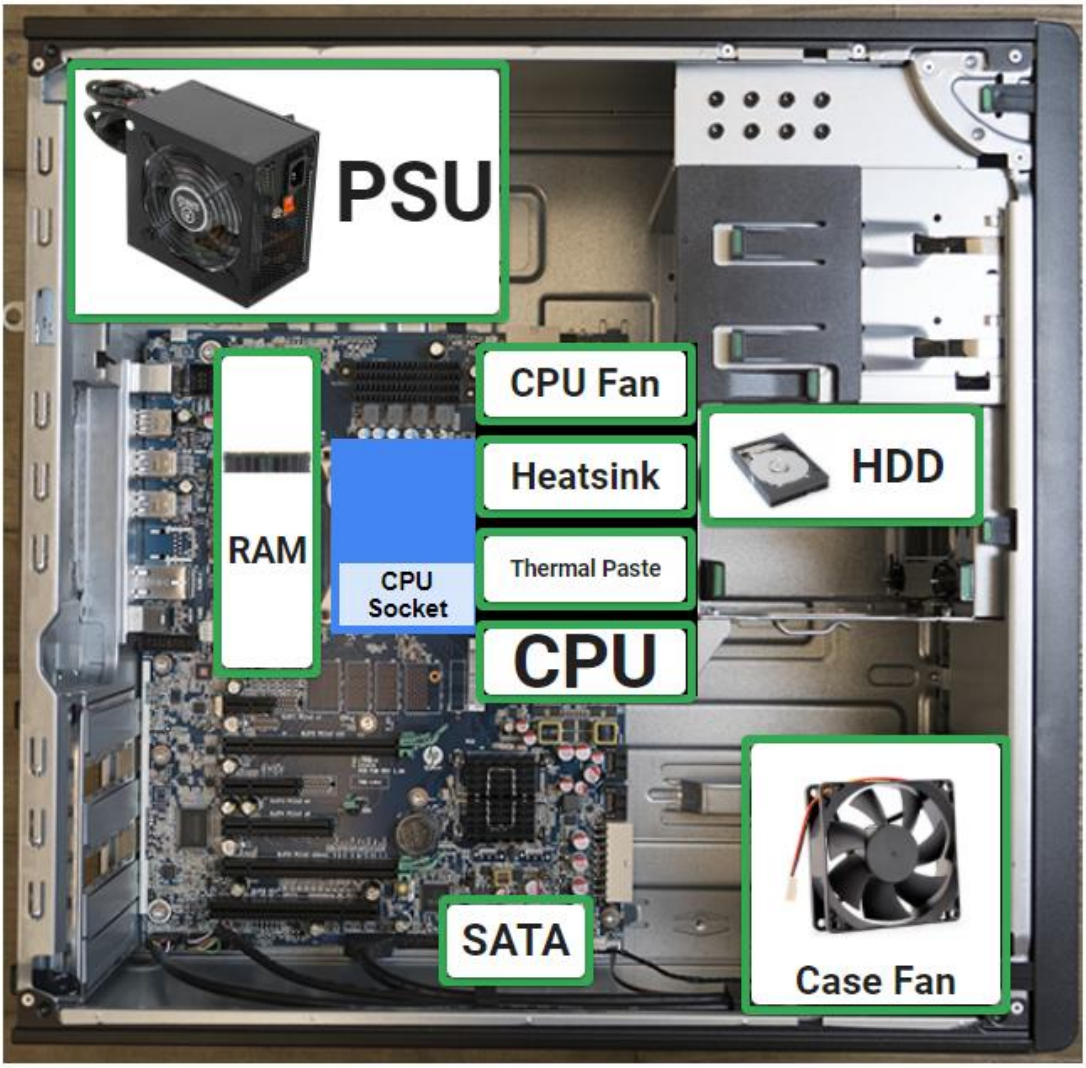
Correct
You got it! UEFI is the new standard for BIOS. It has become the default BIOS on new systems and it has better compatibility with newer hardware.

- [x] UEFI is meant to become the new standard for BIOS.

Correct
You got it! UEFI is the new standard for BIOS. It has become the default BIOS on new systems and it has better compatibility with newer hardware.

- [x] UEFI has become the default BIOS on new systems.

Correct
You got it! UEFI is the new standard for BIOS. It has become the default BIOS on new systems and it has better compatibility with newer hardware.


PSU
CPU Fan
Heatsink
Thermal Paste
CPU
HDD
RAM
CPU Socket
SATA
Case Fan

Check