



IT Fundamentals

Unit - Hardware

Lesson 2.6.1 - Different Computing Devices

IT Fundamentals Objectives (FC0-U61)

Objective 2.6 - Compare and contrast common computing devices and their purposes.

- Mobile phones
- Tablets
- Laptops
- Workstations
- Servers
- Gaming consoles

Grade Level(s)

8, 9

Cyber Connections

- Hardware & Software

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Storage Units

iPhone, iPad, MacBook

Mobile devices have three features that separate them from desktop computers, their size, interface, and OS. In the past, mobile phones were only capable of making phone calls. As time and technology progressed, more features were added to phones like texting and a built-in camera. With the introduction of “smartphones”, mobile phones are now capable of having Internet access, a touchscreen interface, and an OS capable of running downloaded applications.

For users wanting the functionality of a desktop computer but also wanting portability, a *laptop* is the best option. Laptops run the same OS as desktops, come with a built-in screen, a battery (battery life can range from 30 minutes to 10 hours depending on a variety of factors), and other built-in features like a webcam, microphone, and speakers. Desktop computers have the capability of being more powerful than laptops, but the functionality is still the same.

To bridge the gap between laptops and mobile phones, we have *tablets*. Tablets receive some criticism for “just being a big, bulky phone” or “a watered-down laptop”. Tablets typically run the same OS as comparable mobile phones, but some newer tablets are capable of running full versions of Microsoft Windows OSs. Because of their smaller, thinner size, they are not able to handle some of the more demanding applications because they lack the internal hardware.

Workstations and Servers

For businesses and organizations needing specialized hardware/applications, *workstations* are the computer of choice. Unlike a PC, a workstation is faster and more capable. Workstations are used by engineering companies, architects, graphic designers, and any organization, department, or individual that requires a faster microprocessor, a large amount of RAM, or special features such as high-speed graphics adapters.

The term *server* refers to a networked computer dedicated to full-time assistance of other computers. There are numerous kinds of servers: email servers, authentication servers, and web servers just to name a few.

Teacher Notes:

For most organizations, where each individual has their own workstation, they will all be connected to the same server(s).

Playstation vs. Xbox

Modern *gaming consoles* are very comparable to personal computers. They have (mostly) the same internal components as PCs (motherboards, CPU, RAM, HDD, GPU), but run a specialized OS. Modern gaming consoles also have a *user interface* (UI) that is similar in look and function to that of smartphones and tablets. Because of the disk drive, modern gaming consoles can be used to play CDs, DVDs, and Blu-ray discs, eliminating the need for a separate Blu-ray player.