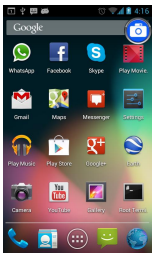
Activity 4: What is an OS?

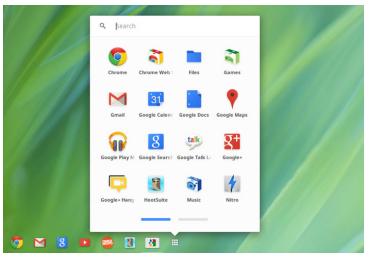
According to Google, an operating system is "the software that supports a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals."

Model 1 Screenshots

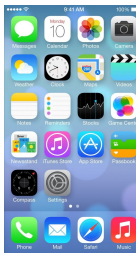
Write the name of the operating system under each screenshot:



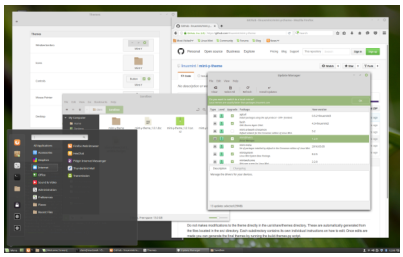
Android



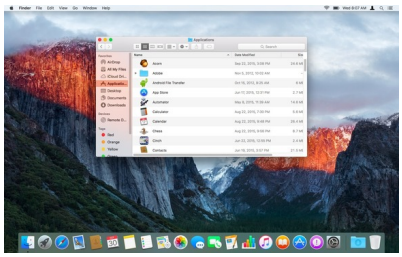
Chrome OS



iOS



Linux Mint



Mac OS

Windows

Questions (10 min) **Start time:** _____

1. What do these operating systems have in common? Describe at least three similarities.

They each have a menu that allows the user to run applications by clicking on icons. Users can run multiple applications at the same time (although it looks different). All of these OS's have security updates that need to be applied on a regular basis.

2. How are these operating systems different? Describe at least three major differences.

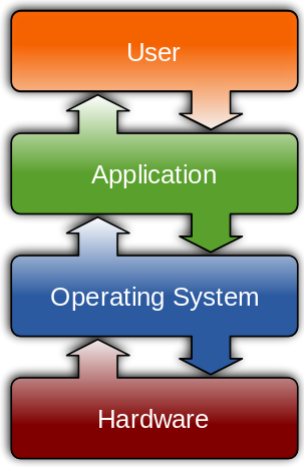
They run on different types of hardware (phones, tablets, Chromebooks, desktops). Different companies and organizations make them (Apple, Google, Microsoft, others). They each have their own set of features, strengths, and weaknesses.

3. Based on your experience as a computer user, what does an operating system do?

The OS "runs" the computer: it manages the hardware, starts and stops applications, and provides the overall look and feel of the user experience.

Model 2 Interactions

To the right of each box, list several examples of what the word means in the context of the diagram:



Employee, Friend, Student, Teacher

Chrome, Finder, PowerPoint, Word

Android, Linux, Mac OS, Windows

Desktop, Laptop, Phone, Tablet

Questions (10 min) Start time: _____

4. Consider a smartphone or tablet. Describe how users interact with applications.

Users interact by touching the screen, speaking out load, shaking the device, etc. Apps respond by displaying results, playing sounds, sending notifications, etc.

5. With respect to hardware interactions, what does the operating system need to do?

The OS keeps track of resources; for example, it displays the battery life and clock time. It also needs to coordinate all the apps that are currently running and manage the disk.

6. Why do applications need to go through the operating system to access hardware?

Having an OS between applications and hardware makes it easier to write software. You don't have to worry about the details of all the devices (or lack thereof). It also helps make the system more secure by not allowing programs to take over the machine.