

Computer Basics

Laptop Computers and Netbooks



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What is a laptop computer?

A laptop is a personal computer that can be **easily carried** and used in a variety of locations. Many laptops are designed to have all of the functionality of a desktop computer, which means they can generally run the same **software** and open the same types of **files**. However, some laptops, such as **netbooks**, sacrifice some functionality in order to be **even more portable**.



Watch the video to learn about the basic parts of a laptop computer.

How is a laptop different from a desktop?

Because laptops are designed for portability, there are some important differences between them and desktop computers. A laptop has an **all-in-one design**, with a built-in **monitor**, **keyboard**, **touchpad** (which replaces the mouse), and **speakers**. This means it is fully functional, even when there are no peripherals attached to it. A laptop is quicker to set up, and there are fewer cables to get in the way.

There also is the option of connecting a regular mouse, larger monitor, and other peripherals. This basically **turns your laptop into a desktop computer**, with one main difference: You can easily disconnect the peripherals and take the laptop with you wherever you go.

Here are the main differences you can expect with a laptop:

Touchpad: A touchpad (also called a **trackpad**) is a touch-sensitive pad that lets you control the pointer by making a "drawing" motion with your finger. Many touchpads now include **multi-touch gestures**, which allow you to perform **specific tasks** by making gestures with more than one finger. For example, a **pinch** gesture is often used to zoom in or out.



Battery: Every laptop has a battery, which allows you to use the laptop when it's not plugged in. Whenever you plug in the laptop, the battery **recharges**. Another benefit of having a battery is that it can provide **backup power** to the laptop if the power goes out.

AC adapter: A laptop usually has a specialized power cable called an **AC adapter**, which is designed to be used with that particular kind of laptop. Some of these cables use magnetic **MagSafe** connectors that will safely pull out if someone trips over the power cable. This helps to prevent damage to the cable and the laptop.



Ports: Most laptops have the same types of ports that desktop computers have (such as **USB**), although they usually have **fewer ports** to save space. However, some ports may be different, and you may need an adapter in order to use them. For example, the monitor port is often a **Mini DisplayPort**, which is a smaller version of the normal **DisplayPort**.

Because some ports have a similar appearance, you may need to look at your **manual** to determine what types of ports your laptop has.

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What is a netbook?

A **netbook** is a type of laptop that is designed to be **even more portable**. Netbooks are often **cheaper** than laptops or desktops. They are generally **less powerful** than other types of computers, but they provide enough power for **email** and **Internet access**, which is where the name "netbook" comes from.

In order to save space, netbooks generally have smaller **screens** and **keyboards**. Many netbooks also lack certain **hardware** such as **optical drives**. However, there are many different models available, and in some cases there isn't much of a difference between a large **netbook** and a "regular" **laptop**.



Since netbooks are less powerful, they sometimes use a more simplified operating system. Many new netbooks use **Windows 7 Starter**, but some use simplified versions of **Linux**.

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Challenge!

- If you've used a laptop computer before, think about some of the ways it was different from a desktop computer. Was it easier or more difficult to use?
- What are some of the advantages of using a laptop or netbook? Are there any disadvantages?
- If you are thinking about buying a laptop, think about how you would use it. Are there any **parks**, **coffee shops**, or **bookstores** where you could use your laptop?
- Would a **laptop**, **netbook**, or **tablet computer** work best for you?

Computer Basics

Getting to Know Mobile Devices



What is a mobile device?

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A mobile device is basically any **handheld computer**. It is designed to be extremely portable, often fitting in the palm of your hand or in your pocket. Some mobile devices are more powerful, and they allow you to do many of the same things you can do with a desktop or laptop computer. These include **tablet computers**, **e-readers**, and **smartphones**.

Tablet computers

Like **laptops**, **tablet computers** are designed to be portable. However, they provide a different computing experience. The most obvious difference is that tablet computers don't have keyboards or touchpads. Instead, the entire screen is touch-sensitive, allowing you to type on a **virtual keyboard** and use your finger as a mouse pointer.

Tablet computers are mostly designed for **consuming media**, and they are optimized for tasks like **web browsing**, **watching videos**, **reading e-books**, and **playing games**. For many people, a "regular" computer like a **desktop** or **laptop** is still needed in order to use some programs. However, the convenience of a tablet computer means it may be ideal as a **second computer**. Below are some of the main features you can expect with a tablet computer:



Mobile OS: Different types of tablets use different operating systems. Examples include **Android** and **iOS**. You'll usually be able to download **free updates** to your OS as they become available.

Solid-state drives: Tablet computers usually use **solid-state drives**, which allow the computer to **boot up** and open **programs** more quickly. They are also more **durable** than hard disk drives.

Wi-Fi and 3G/4G: Because they are optimized for Internet use, tablet computers have built-in **Wi-Fi**. For a monthly fee, you can also purchase a **3G or 4G data plan**, allowing you to access the Internet from almost anywhere.

Bluetooth: In order to save space, tablet computers have very few **ports**. If you want to use an external **keyboard** or other peripherals, they will often use a wireless **Bluetooth** connection.

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E-book readers

E-book readers (also called **e-readers**) are similar to tablet computers, except they are mainly designed for reading **e-books** (digital, downloadable books). Examples include the **Amazon Kindle** and **Barnes & Noble Nook**.

E-book readers have either an **e-paper** display or an **LCD**:

E-paper: Short for **electronic paper**, this type of display can usually only display in **black and white**. It is designed to look a lot like an actual page in a book. Unlike an LCD, it is **not backlit**, so the text stays readable even outdoors in full sun. Many people consider e-paper to be more pleasant to read because it causes less **eye strain**. However, it generally can't be used for **videos** or other applications because the refresh rate is too low.



LCD: This is the same type of screen found on **tablet computers** and **laptops**. It's more versatile than e-paper, but it's often more difficult to view in bright sunlight, as the image becomes **washed out**. Since an LCD screen can display **colors**, this type of e-reader is better for viewing **magazines** or books with **photos**. Many LCD e-readers (such as the **Nook Color**) are basically **tablet computers**, as they can perform many different tasks in addition to displaying e-books.



You don't need an e-reader to read an e-book. E-books can usually be read on **tablet computers**, **smartphones**, **laptops**, and **desktops**.

Go to the [Kindle](#) and [Nook](#) websites to compare the features of different e-readers.

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Smartphones

A **smartphone** is a powerful **mobile phone** that is designed to run a variety of applications in addition to providing phone service. Smartphones are basically small **tablet computers**, and they can be used for **web browsing**, **watching videos**, **reading e-books**, **playing games**, and more.

Smartphones use **touchscreens** and **operating systems** similar to those used by tablet computers. Many of them use a **virtual keyboard**, but others have a **physical keyboard**, which allows the entire screen to be used for display purposes.

Internet access is an important feature of smartphones. Generally, you will need to purchase a **3G or 4G data plan** in addition to normal **cell service**. Smartphones can also connect to **Wi-Fi** when it is available; this allows you to use the Internet without using up your monthly data allotment.



A **personal digital assistant (PDA)** is a mobile device that is used for managing phone numbers, addresses, calendars, and other information. Before **smartphones** existed, a PDA was usually a **separate device**. Today, smartphones combine the functionality of a **PDA** and a **mobile phone**.

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Challenge!

- Think about how a **tablet computer** is different from a **laptop**. What are some of the advantages and disadvantages of a tablet computer?
- If you're thinking about buying an **e-reader**, think about what kinds of things you like to read. Do you mostly read **books** or **magazines**? What kind of screen do you think would be best?
- Smartphones can have **virtual keyboards** or **physical keyboards**. What are some advantages and disadvantages to each one?

