

Small, Smaller, Smallest

Be a Power Reader

Making a Concept Web Draw a circle in the middle of a sheet of paper and label it “portable computers”. Draw five squares around the circle and label them with the terms *laptop*, *notebook*, *tablet*, *handheld*, and *specialized*. As you read the article, make notes about each of the different types of portable computers inside the appropriate square. Connect them to the circle in the middle of your paper. You can use this concept web to answer the review questions.

Introduction

Mark Lang is a salesperson for a sports equipment manufacturer. He travels across the country, showing products to sporting goods stores and taking orders. Mark says:

When I first began working in this business, I was overwhelmed with paper. I had to lug around bulky catalogs. I had to keep track of discontinued items and new products. Placing orders and keeping track of them was no picnic either!

Now I have everything I need on my notebook computer—my customer **database**, movies showing new products, presentations showing the latest trends, and of course my product catalog. But the catalog on my computer is so much more than the big, old, paper catalogs. It’s always up-to-date, and it’s much easier to find what the customer is looking for.

I send in orders while I’m with the customer and print a confirmation with estimated shipping dates before I leave their store. I can even go to our company’s Web site to get updates on current products.

These features of portable computers make work easier for people like Mark, who must do their work on the go. In this article, we will look at some of the portable devices that make all of our lives easier.

Laptops

In 1987 Toshiba introduced the T1000, which is considered the first true laptop computer. A **laptop computer** is a portable computer that is designed so that you can hold it on your lap while using it. It features a “clamshell” design that looks like a small briefcase. There is a keyboard in the base. The lid contains a flat-screen monitor. It can use a rechargeable battery or be plugged into an electrical outlet.

Laptops became very popular. However, some early users complained about their relatively short battery life. They could only be used for a few hours before the batteries had to be recharged. At the same time, people wanted their portable computers to be even smaller and lighter, closer in size to a notebook than to a briefcase.

Notebooks

As computer components got smaller, so did laptops. These slimmer, lighter computers came to be known as **notebook computers**. Notebook computers get their names because they are about the size of an average notebook. Other changes came about as well. An important change was that their batteries could last longer without recharging.



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Notebooks often feature large, bright color screens. They also have full-sized keyboards. They have hard drives that can hold as much as many regular desktop computers. They contain hardware that allows them to access the Internet and other networks. Today's notebook computer can do pretty much everything a desktop computer can do, but it is much lighter and more compact.

Tablet Computers

More recently, a new species of notebook computer, the **tablet computer**, has come about. A tablet computer uses a **touch screen** for data entry. You use a **stylus** to write directly on the screen. A stylus is a pointed writing tool, similar to a pen. The computer sees what has been written as a graphic (or picture). It then can use **handwriting recognition software** to convert your written words into typed text.



Tablet computers let you use a stylus to enter text and drawings.

Handheld Devices

Laptop and notebook computers can serve as replacements for full-sized desktop computers. However, users wanted even smaller devices that they could carry in a pocket or purse. These devices are not designed to replace traditional computers. Instead, they help with on-the-go tasks, such as keeping an address book or appointment calendar. Some people call these devices “organizers.”

In 1993, Apple introduced the Newton, the first organizer to include touch screens and handwriting recognition software. Along with the new technology came a new, more descriptive term: **personal digital assistant**, or **PDA**. The popularity of PDAs grew rapidly after the introduction of the Palm Pilot in 1996, which was smaller and less expensive than the Newton.

Today's PDAs are often referred to as “handhelds.” This is because they fit in your hand. They typically contain touch screens. Most handhelds include a calculator, address book, appointment calendar, and a place to jot down notes. Some include tiny keyboards as well.



Today's handhelds can do much more than keep your address book and appointment schedule.

Built-in applications tend to be fairly limited. Remember, these devices are meant to supplement, not replace, computers. They typically contain simple Web browsers

and e-mail applications. If you have Internet access, you can check your e-mail wherever you are. You also can transfer data between your desktop (or notebook) computer and your handheld.

Specialized Devices

Marta works for an electric company. Her job is to read customers' meters. Every month she visits each customer's meter (which is typically on the outside of the home). The meter keeps track of electrical usage. Her PDA contains a special socket which fits into the customer's meter. The meter reading is then transferred into Marta's PDA. At the end of the day, she goes to her company's main office. There she inserts her PDA into a holder in a special desktop computer. All of the information that she has gathered during the day is transferred into the desktop computer. This information is used to create the customer's monthly bill.

Using her PDA allows Marta to do her work very quickly. It also greatly reduces the chances for errors.

If you look around, you will see all kinds of workers using specialized computers. Some of these are similar to PDAs, while others are more like tablet computers. Here are some examples of how these devices are used:

- Doctors, nurses, and other healthcare workers use handhelds to keep track of patient records.
- Delivery services and the United States Postal Service use PDAs with **barcode scanners** to track parcels. They also scan customers' signatures so they can keep track of deliveries.



Overnight couriers use handheld devices to track packages.

- Stores use handhelds with barcode scanners to keep track of **inventory**.
- Restaurant servers use PDAs to send customer orders directly to the kitchen.

Many mobile phones are able to do some of the same tasks as PDAs. You may be familiar with mobile phones that let you access the Web, check your e-mail, and even play games. Some even include built-in cameras.



Some mobile phones have built-in cameras.



Review Questions

1. How is a tablet computer different from a notebook?
2. What advantages does a notebook have over a PDA? What advantages does a PDA have over a notebook?
3. Give three examples of specialized uses of PDAs.



What Do You Think?

1. You need a portable computer to take with you when you do research at the library. Which of the systems discussed here would be most useful to you?
2. This article discusses several types of specialized handheld devices, such as those used by delivery people. Can you think of several other ways these devices might be used? Try to be as creative as possible.

Glossary

barcode A series of lines (bars) and spaces placed on items such as retail goods and delivery packages to identify them.

barcode scanner A special-purpose device that reads barcodes and translates them into numbers.

database A group of records that can be accessed in many different ways. Each record contains a collection of information, such as all the information available on a particular individual.

handwriting recognition software An application that examines handwriting and converts it into typed text.

inventory An itemized list of the items currently on-hand or in stock.

laptop computer A portable computer about the size of a briefcase. It is designed to be placed on a person's lap while working. The screen is in the lid.

notebook computer A slim, lightweight portable computer about the size of a notebook. The screen is in the lid.

personal digital assistant (PDA) A small, cordless electronic device used for tasks like managing address books and appointment schedules. PDAs usually allow you to jot down notes and may allow you to access the Internet and e-mail. Many businesses and industries use PDAs that are specialized to meet their particular needs. PDAs are also called *handhelds*.

stylus A pen-shaped pointing device used to enter data into some types of computer systems, such as a tablet computer.

tablet computer A portable computer about the size of a tablet. It does not have a lid. The user typically uses a stylus to enter data by writing on the built-in screen.

touch screen A specially designed display screen that contains touch-sensitive material. This allows you to write text or draw graphics on the screen. This data is then stored in the computer.