

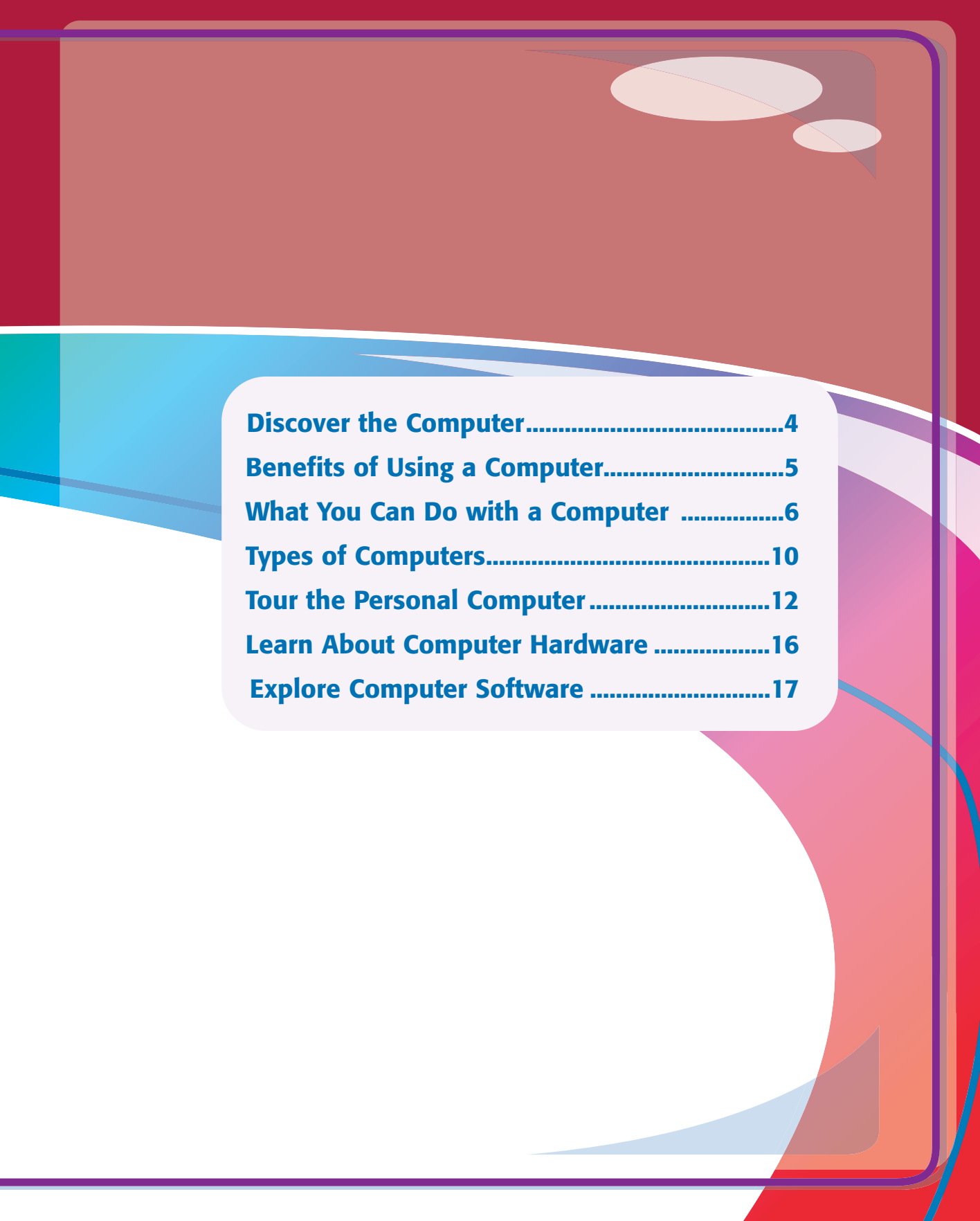
CHAPTER

1

Getting Familiar with Computer Basics



Are you ready to start learning about computers? This chapter will help by introducing you to the computer and showing you its benefits and uses. You learn about the different types of computers, take a tour of a typical personal computer, and learn the difference between computer hardware and software.



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Discover the Computer

A computer is a device that you can use to store, manipulate, and display text, numbers, images, and sounds.



Computer

A *computer* is an electronic device that is designed to work with information. The computer takes information in, processes that information, and then displays the results. In this way, a computer is similar to a calculator, except that even the smallest computer is much more versatile than the most powerful calculator. Computers operate at amazingly fast speeds, with a typical computer processing millions of calculations every second.



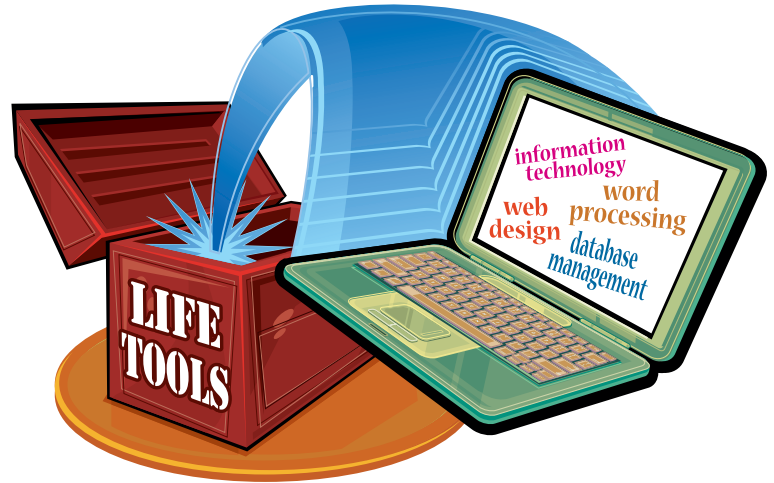
Personal Computer

A *personal computer* is a small, relatively inexpensive computer that is designed for use by one person at a time. It allows you to perform personal tasks such as creating documents, communicating with other people, and playing games. The abbreviation *PC* is most often used to refer to computers that run the Microsoft Windows operating system, as well as to differentiate them from Macintosh computers.



Benefits of Using a Computer

A computer is a powerful and useful tool because it gives you a number of benefits, including the ability to quickly produce high-quality work. It also enables you to learn new skills that are an important part of today's technological world.



Speed

Computers allow you to perform many everyday tasks more quickly. For example, if you mail a letter to a friend, he or she may receive it in a few days. However, if you send an e-mail, it will be received in a few minutes. Similarly, if you manually compose a newsletter, it may take you a week, whereas using a computer, it may take just an afternoon.



Quality

The tools that come with a computer enable you to create high-quality documents and drawings, even if you are not a typesetter or an artist. With just a few simple techniques, you can create documents that look professional or are exactly suited to your present task.



New Skills

Because we live in a computer age, you often require basic computer skills to accomplish many daily tasks. Typing on a keyboard, using a mouse, and other basic computer skills are useful in many different situations and are often required by employers.



What You Can Do with a Computer

Most electronic devices — such as DVD players, camcorders, and personal stereos — only do one thing. However, because computers are versatile by design, they enable you to do many things. For example, you can use a computer to listen to music, watch movies, create flyers, research your family history, educate your children, and play games.



Create Documents

You can use your computer to create letters, resumes, memos, reports, newsletters, brochures, business cards, menus, flyers, invitations, and certificates. Anything that you use to communicate on paper, you can create using your computer.



Monitor Your Finances

You can use your computer to perform basic financial management. For example, you can create a budget, record expenses, balance your checkbook, calculate your taxes, and monitor your mortgage. If you run a small business, you can allocate income and expenses, create financial reports, and calculate your profit and loss.



Perform Research

You can use your computer and the Internet to research almost any topic that you can think of. For example, you can learn more about a vacation destination, trace your family history, access back issues of newspapers and magazines, and compare products before you buy them.



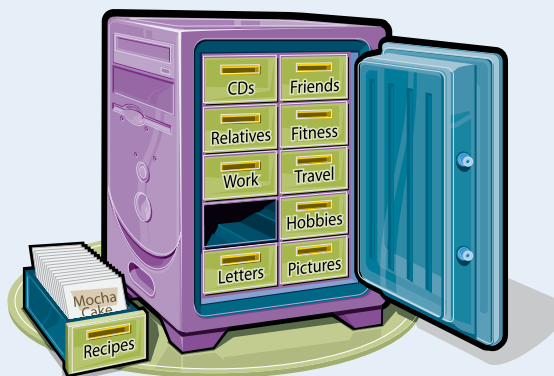
Work with Numbers

You can use a spreadsheet program to work with numbers on your computer. For example, you can create a mortgage amortization schedule, calculate how much money you need to save for retirement, monitor an investment portfolio, and create a business plan.



Store Data

You can use your computer, and the appropriate software, to store and work with large amounts of data. You can track personal items such as CDs, recipes, contact information for friends and relatives, and fitness activities. For business, you can track clients and potential clients, inventory, products, and orders.



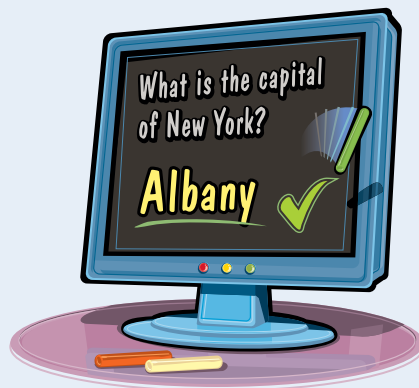
Schedule Your Time

You can use your computer as an electronic day-timer to record upcoming activities, birthdays, anniversaries, events, meetings, and appointments. You can also set up some scheduling programs to remind you of approaching events so that you do not forget them.



Teach Your Children

You can use your computer to help educate your children. There are many programs available that are designed to assist children with reading, drawing, learning math and science, solving problems, and enhancing creativity.



continued

What You Can Do with a Computer *(continued)*

Learn New Life Skills

You can use your computer to learn new life skills. Programs are available that teach you how to speak a different language, play chess, cook, garden, design a home, play a musical instrument, and design and make clothes.

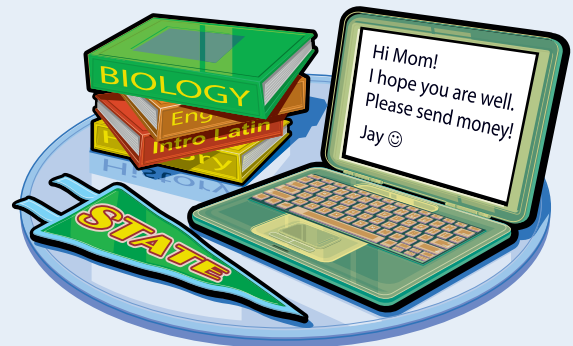


Make New Friends

You can use your computer and the Internet to enhance your social life. You can chat with other people by typing messages to them, join mailing lists, find support groups, find clubs and organizations in your area, and find a date.

Keep in Touch

You can use your computer to communicate with friends, family, colleagues, and clients that you do not often see face to face. You can send e-mail messages and instant messages, and you can even talk to another person using a microphone and your computer's speakers.



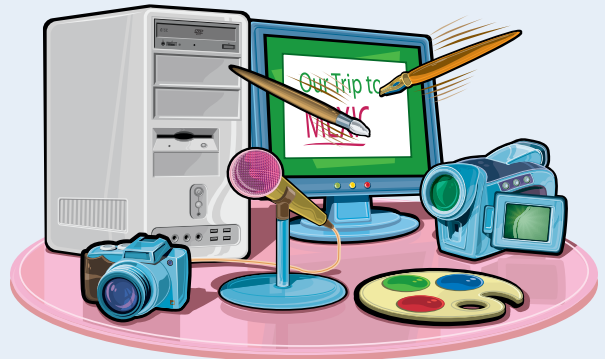
Buy and Sell

You can use your computer and the Internet to buy and sell things. Many online stores enable you to purchase anything, from books to baby accessories, and have it delivered to your door. There are also auction sites, such as eBay, that enable you to sell items that you create or that you no longer need.



Create Items

You can use your computer to bring out your creative side. For example, you can create your own greeting cards or wedding invitations, draw pictures, manipulate digital photos, edit digital movies, record sounds, and compose music.



Play Media

You can use your computer to play digital media, including music CDs, audio files, video files, animations, DVDs, music, and movies that you have downloaded from the Internet.



Play Games

You can use your computer to play many different types of games. You can solve a puzzle, fly a plane, race a car, go on an adventure, play football or baseball, battle aliens, plan a city, play backgammon or checkers, or deal poker.



Types of Computers

When selecting a computer that is best for your needs, you should consider what purpose it will serve in your home or business, and whether it should be mobile for travel.



Desktop

A *desktop* is by far the most common type of computer. Most desktop systems come with a separate computer case, monitor, keyboard, and mouse. On older desktops, the computer case lies flat on the desk with the monitor sitting on top. Almost all newer systems use a *tower* case that sits upright. You can place this case either on a desk or on the floor. Many newer desktops are *Media Center PCs* that enable you to play movies, view pictures, and listen to music through your TV and stereo.



Notebook

A *notebook* is a computer that combines the case, monitor, keyboard, and mouse in one unit. It is also called a *laptop* or a *portable*. Notebooks are light – usually only four to six pounds – and so you can take them out of your office or home. Most notebooks are just as powerful as a desktop system.



Tablet PC

A *tablet PC* is a computer that looks similar to a small notebook. However, the tablet PC screen pivots so that it lies on top of the keyboard, making it look like a writing tablet. You can use a *digital pen* to input your data, or select items on the screen.

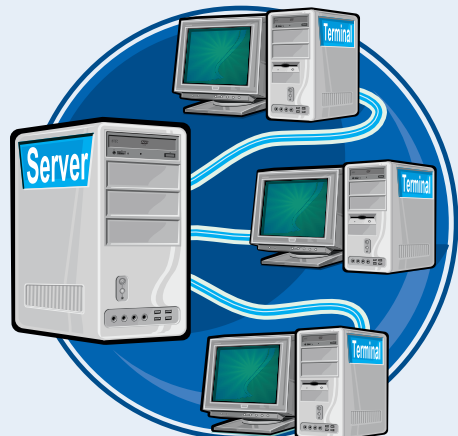


Handheld PC

A *handheld PC* is a very small computer – usually weighing less than a pound – that you can hold comfortably in your hand or carry in a jacket pocket. A handheld PC is also called a *personal digital assistant (PDA)* or *palmtop*. Most people use a handheld PC to store their schedules and check their e-mail while out of the office. A newer type of handheld computer is the *ultra mobile PC (UMPC)*, which comes with a relatively large screen and can run a wider variety of programs than most handheld PCs.

Server

A *server* is a powerful computer that acts as a central resource for a number of other computers that are connected to it. These other computers can be desktops or stripped-down *terminals* that use the server to run programs and store data. Some servers are *mainframes*, which are giant computers that run large-scale operations, such as airline reservation systems.



Tour the Personal Computer

Main Personal Computer Parts

Learning to use a personal computer is much easier if you know how a typical system is laid out and what each major part does.

Computer Case

The *computer case*, also called the *system unit* or *console*, holds the electronic chips and devices that make the computer work. The outside of the case has an on/off switch, and the rear of the case is where you plug in the other computer components. For more information about the internal components of your computer, see Chapter 2.

Monitor

The *monitor*, also called the *screen* or *display*, is a TV-like device that the computer uses to display text, images, and other information.

Keyboard

The *keyboard* is a typewriter-like device that you use to type information and enter instructions for the computer to follow. To learn how to work the keyboard, see Chapter 4.

Mouse

The *mouse* is a hand-operated pointing device that you use to select or move items on the screen, as well as to provide instructions for the computer to follow. To learn how to operate the mouse, see Chapter 4.



Personal Computer Accessories

Besides the keyboard and mouse, most personal computers also come with a number of accessories.

Printer

A *printer* is a device that you use to print a document from a computer. Some printers are *all-in-one* devices that can also fax, copy, and scan documents.

Speakers

The *speakers* are devices that output the sound effects, music, narration, and other audio that your computer generates. You can also use *headphones* so that only you can hear the computer's output.

Uninterruptible Power Supply

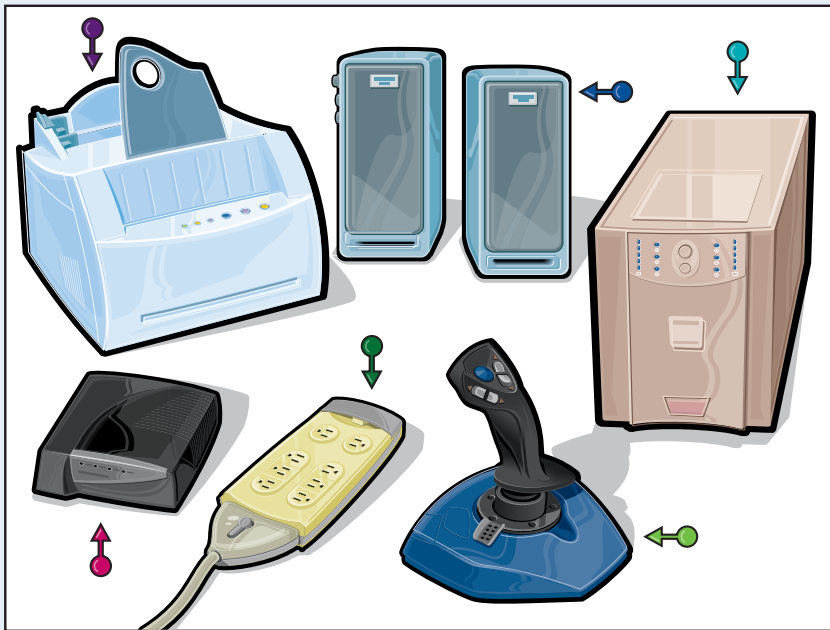
An *uninterruptible power supply* (UPS) is a device that provides temporary power to your computer should the electricity fail. This device enables you to shut down your computer properly to avoid losing data.

Game Controller

The *game controller* is a device that you can use to control the action in a computer game.

Surge Protector

A *surge protector* is a device that protects your computer from damage by power fluctuations, which are most often caused by lightning.



Modem

The *modem* is a device that connects your computer to the Internet, either through telephone lines or TV cable. Some modems, called internal modems, reside inside the computer case.



Tour the Personal Computer (continued)

Front of a Personal Computer Case

On a typical personal computer, the front of the case contains a number of buttons, indicator lights, ports, and slots.



Power Switch

When the computer is off, press the *power switch* to turn the computer on. When you have finished working with your computer and have shut down all of your programs, press the power switch again to turn off the computer.

Activity Light

The *activity light* flashes on and off when your computer is performing a task, such as accessing the main hard disk.

Memory Card Readers

The *memory card readers* are slots into which you can insert various types of memory cards, which are a form of portable storage. See Chapter 2.

Front Access Ports

The *front access ports* are similar to many of the ports on the back of the computer (see the next page), but are often easier to reach.

CD or DVD Drive

A *CD drive* is a storage device that accepts data CDs (compact discs), which resemble musical CDs. Most new computers have a *DVD drive*, which accepts data DVDs. For more information, see Chapter 2.

Personal Computer Ports

On a typical personal computer, the rear of the case contains a number of holes and slots, called *ports*, into which you plug computer devices.



Keyboard Port

You use the *keyboard port* to plug in the keyboard.

Mouse Port

You use the *mouse port* to plug in the mouse.

Monitor Port

You use the *monitor port* to plug in the monitor.

USB Ports

You use a *Universal Serial Bus (USB) port* to plug in a USB device. Many computer peripherals – including keyboards, mice, and printers – come in USB versions.

FireWire Port

You use a *FireWire port* – also known as the *IEEE 1394 port* – to plug in a FireWire device. Devices such as digital video cameras often use FireWire connections.

Network Port

You use the *network port* to plug in a cable that connects to a network or to a high-speed Internet modem. This is also called an *Ethernet port*.

Sound Ports

You use the *sound ports* to plug in sound devices, such as your speakers (the green port on most systems) and microphone (the pink port). Some systems have Line In and Line Out ports to connect the computer to external audio equipment.

TV Tuner Ports

You use *TV tuner ports* to connect a Media Center PC to a TV. The TV tuner ports enable you to send signals to and receive signals from a TV.

FM Antenna Port

You use an *FM antenna port* to connect an FM antenna, which enables a Media Center PC to receive FM radio signals.

Modem Port

You use the *modem port* to connect your computer's internal modem to your telephone system.

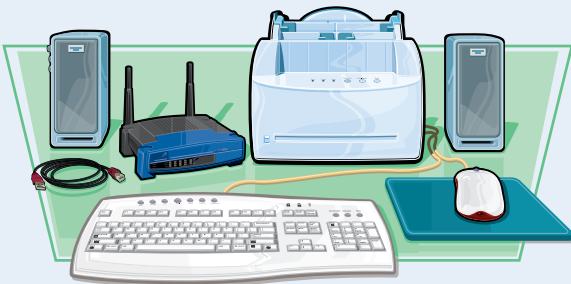
Learn About Computer Hardware

Computer hardware consists of the physical components of your computer: the parts, devices, buttons, and ports that you can touch and physically manipulate. Computer hardware comes in two basic varieties: external and internal.



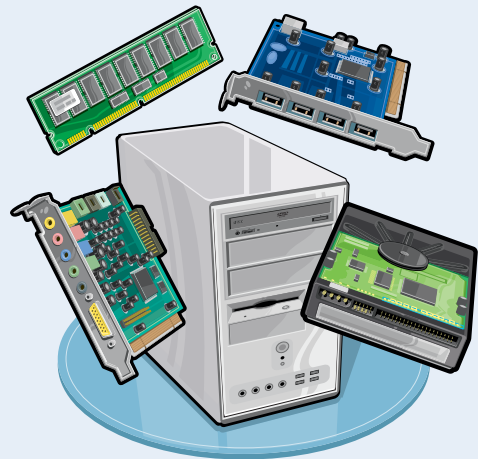
External Hardware

External hardware, also known as *peripherals*, refers to hardware that connects to the outside of the computer case. The monitor, keyboard, and mouse are the most common external hardware devices. The printer and speakers are also popular peripherals. You can connect external hardware to your computer through the computer ports described on the previous page.



Internal Hardware

Internal hardware refers to hardware that resides inside the computer case. This includes the *central processing unit (CPU)* – the brains of the computer – *memory chips* that are used for temporary data storage while you work, *disk drives* that are used for long-term storage, and *circuit boards* that supply many of the ports on the back of the computer case. You can learn more about internal hardware devices in Chapter 2.

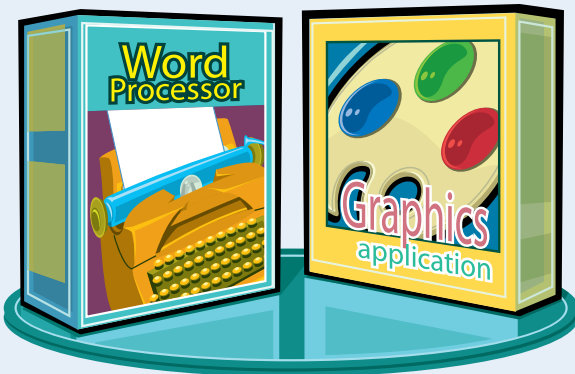


Computer software provides the instructions that enable the computer hardware to perform its tasks. Without software, your monitor would not display anything, your speakers would remain silent, and typing on the keyboard keys would have no effect. Computer software comes in two basic categories: application and system.



Application Software

Application software refers to the programs that you interact with to perform specific computer tasks. For example, a word-processing program enables you to create documents such as memos and letters, a graphics program enables you to draw an image, and an e-mail program enables you to send and receive e-mail messages.



System Software

System software refers to programs that operate behind the scenes to ensure that your computer system functions properly. This software is most often referred to as the *operating system*. Some examples of system software include Windows Vista and Mac OS X. For more information about the operating system, see Chapter 2.

