

# Chapter 15

## Using Technology

### You Already Know...

- technology is important in the world of work
- all workers need computer skills
- computers help in many kinds of jobs
- special technology can help people with disabilities

### You Will Learn...

- the five parts of a personal computer
- the uses of peripherals and office machines
- the use of several types of computer programs
- what assistive technology is
- why computer ethics are important

### Personal Career Portfolio *Preview*

For your portfolio, you will make a chart of the types of technology you know how to use. As you read, think about what types of hardware and software you have used in the past.





## Before You Read

**Preview** Skim the chapter. Read every blue heading. Make a list of subjects that you will read about in this chapter. Work with a classmate to compare lists.

# Section 15.1

## Technology Basics

### Ready, Set, Read

#### Key Terms

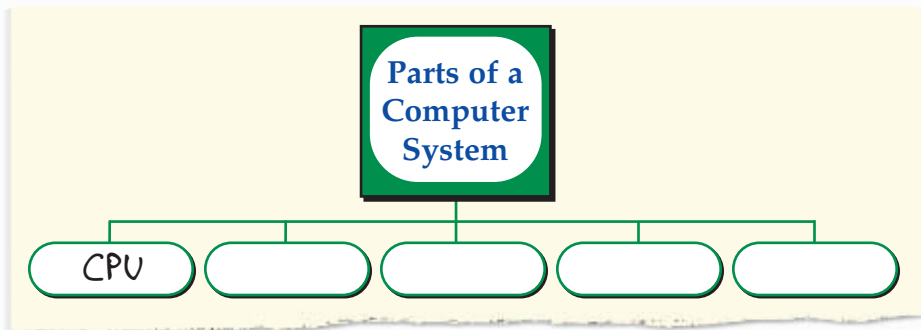
technological literacy  
personal computer (PC)  
hardware  
disk drive  
peripheral  
scanner  
voice mail  
fax machine

#### Main Idea

Computers are the most important form of technology. Computer systems and peripherals let you input and output information.

#### Thought Organizer

Copy the chart below. As you read, fill in the five parts of a computer system and their definitions.



### Technology Plays a Role in Every Job

You know you need literacy to get a good job. Literacy is the ability to read, speak, and write. Did you know you also need technological literacy?

**Technological literacy** is the ability to work with technology. Technology is knowledge and tools that make it possible to do new things. People who are technologically literate understand how technology works. People who are technologically literate are also good at learning how to use new technology.

Think about the kinds of technology you use or observe. Our world uses more and more technology each day. You will probably use and observe even more technology when you enter the world of work.

**technological literacy** ■  
The ability to work with technology.

## Computers Are a Type of Technology

A *computer* is a machine that stores and processes data such as words, numbers, and pictures. Workers use computers to create, calculate, and organize information.

You do not have to know a lot about computers to start using them. However, the more you know, the more you will be able to do.

### PCs Are Computers for Work, School, and Home

There are many types of computers. Some computers are so large that they take up an entire room. Many people can use these computers at the same time.

Most people use PCs, however. A **personal computer (PC)** is a small computer made for a single person to use. PC stands for personal computer.

**PCs Come in Three Sizes** PCs fit on a desk or in a small case. PCs that fit on your desk are called desktop computers. Desktops are the size of a large cereal box.

PCs that fit on your lap are called laptop computers. Laptops are the size of a thick spiral notebook.

PCs that fit in your hand are called palmtops or handhelds. They are the smallest PCs.

### While You Read

**Question** What are the three sizes of PCs?

**personal computer (PC)** ■  
A small computer made for a single person to use.



**Personal Digital Assistant** A PDA can help you stay organized. A PDA can store names, phone numbers, and tasks. **How do you remember names, phone numbers, and tasks?**

## Hardware Is the Physical Parts of a Computer

**hardware** ■ The physical parts of a computer system.

**Hardware** is the physical parts of a computer system. Most PCs have five basic parts. The five parts are CPU, monitor, keyboard, mouse, and disk drive.

**Figure 15.1** shows the five parts of a desktop PC.

The *CPU* is the brain of the computer. CPU stands for Central Processing Unit.

The *monitor* is a screen that shows text and graphics.

The *keyboard* is a set of keys that you use to type letters, numbers, and symbols.

The *mouse* is a handheld device that you use to point to areas of the screen. Some people use a touchpad, joystick, or mouth stick instead of a mouse.

**Figure 15.1**

### The Parts of a Computer

These parts are found on most desktop computers. The location of some parts will vary.

**Monitor:**

Output device that displays text and graphics on a screen.

**Keyboard:**

Input device with an arrangement of letter, figure, symbol, control, function, and editing keys and a numeric keypad.



**Disk drive:**

Input/output device that reads data from and writes data to disk.

**CPU (Central Processing Unit):**

Internal operating unit or "brain" of computer.

**Mouse:**

Input device used for commands and navigation.

**Five Basic Parts** The CPU, monitor, keyboard, mouse, and disk drives are the five basic parts of a computer system. **How could a mouth stick be helpful to people with mobility impairments?**

## Point of View



### Making a Dream Come True

When he was 14, Fischel Goldstein was paralyzed in a car accident. “I always dreamed of being a lawyer,” Fischel says. “For a long time I didn’t think that dream would come true.”

Fischel learned to use a mouth stick. A mouth stick is a wooden dowel with an eraser on one end and a tube on the other. “I use the mouth stick to type on the computer,” Fischel says. “I also use the mouth stick to move papers and turn pages in books.”

Fischel now believes in his dream. “I’ve been accepted to law school. I start a month after I graduate from college.”

**It’s Your Turn** Research one type of technology that might help a person with paralysis perform everyday or work tasks. Create a poster that shows when and how this device is used.

For help completing this activity, visit [ewow.glencoe.com/tips](http://ewow.glencoe.com/tips) and go to the *Smart Tip* for the Chapter 15 *Point of View*.

**A Disk Drive Stores Your Work** The fifth part of a computer system is the disk drive. A **disk drive** is a machine that reads from disks and writes to disks. A disk is like a file cabinet. A disk can be full, empty, or in between. You should save your work to a disk to keep from losing it.

Computers have a *hard drive* in the CPU. The hard drive is usually not portable. That means it cannot be taken out of the computer.

Most computers also have disk drives for portable disks. Portable disks include compact disks (CDs), digital video disks (DVDs), and floppy disks. A floppy disk looks like a small plastic square.

**disk drive** ■ A machine that reads from and writes to disks.



## Input and Output

Printing or embossing your work is one way of sharing it with others. You can also send it to another person over the Internet or save it onto a disk.

What is the difference between a printer and a Braille embosser?



**peripheral** ■ A piece of hardware you can connect to a computer.

**scanner** ■ A machine that copies words and pictures from paper into a computer.

## Peripherals Let You Use a Computer in Many Different Ways

There are many types of hardware beyond the basics. A piece of hardware you can connect to a computer is called a **peripheral**.

Peripherals help with input and output. *Input* is information that you put into the computer. *Output* is information you take from the computer.

**Peripherals Let You Put Information Into the Computer** Some peripherals are called input devices. *Input devices* let you put information into the computer. For example, a microphone lets you put words and sounds into a computer. A joystick or mouse changes your hand movements into actions on the computer screen. A **scanner** is a machine that copies words and pictures from paper into a computer.

## While You Read

**Question** What do output devices do?

**Peripherals Let You Take Information From the Computer** Other peripherals are called output devices. *Output devices* let you see, hear, or feel your work. For example, speakers let you hear words and sounds. A printer or Braille embosser lets you put your work on paper.

**Peripherals Let You Share Information** Some peripherals give input and output. For example, a rewritable CD lets you put information into the computer. It also lets you copy and store information from the computer.

A modem lets you send and receive information. A *modem* is a peripheral that links computers by wires or cables. Some modems work over phone lines. Other modems work over special digital lines. Physical lines are called *land lines*. You can also get onto the Internet with a wireless modem.

## Real-World Connection



### What Is Wireless Computing?

Wireless computing lets you use a wireless modem to connect to a computer network without having to be physically plugged into a land line. Once you are connected, you can access files you have on a distant network or connect to the Internet.

Wireless computing lets you use your computer almost anywhere. With wireless technology, travelers can send e-mails in an airport from their laptop computer. Taxi drivers can receive instructions with a PDA. Do you use a cell phone? When you use your cell phone to send a message or a photo, you are using wireless computing.

**Take the Next Step** Make a list of questions you want to ask about wireless computing. Visit a wireless technology store. Ask an employee to demonstrate wireless computing products. Take notes. Share what you learned with a classmate.

For help doing this activity, go to [ewow.glencoe.com/tips](http://ewow.glencoe.com/tips) and find the *Smart Tip* for the Chapter 15 *Real-World Connection*.





## Study Tip

Keyboarding is inputting information into a computer using the keyboard. Keyboarding skills are important at school and at work. Improve your keyboarding skills by practicing. Take every opportunity to use a computer at school and at home.

**voice mail** ■ A system that lets people leave spoken messages when you cannot take a phone call.

## Today's Office Machines Work Like Computers

Office machines include telephones, photocopiers, and fax machines. All workers need to know how to use these machines.

Today's office machines are a lot like computers. They have small computers inside them. You control the machine by telling the small computer inside what to do.

### Voice Mail Lets You Send and Receive Voice Messages

Most of today's telephone systems have voice mail. **Voice mail** is a system that lets people leave spoken messages when you cannot take a phone call. Voice mail messages are stored in computer memory. You can save a message for a long time. You can share a message with someone else. You can erase a message when you are finished with it.

## While You Read

**Connect** Have you ever used a touch screen?

**Photocopiers Scan and Print** Today's photocopiers are like scanners with printers attached. You open the lid and put the paper face-down on the glass. Then you select the options you want from a touch screen. A *touch screen* is a monitor that responds to touch. For example, you can choose how many copies you want. You can choose the paper size. You can make copies lighter or darker. You can make a document bigger or smaller. You can print it on different-sized paper. A small computer in the photocopier stores and remembers your choices.

**fax machine** ■ A machine that sends and receives printed information over the telephone.

### Fax Machines Send Documents Over the Phone

A **fax machine** is a machine that sends and receives printed information over the telephone. *Fax* is short for facsimile, which means a copy. A fax machine is like a phone plus a scanner and a printer. When you send a fax, the machine scans your page and sends the information over the phone. The fax machine on the other end prints the page.

## Section 15.1

### Review

Check your answers online by visiting [ewow.glencoe.com/review](http://ewow.glencoe.com/review) and selecting the Section 15.1 Review.

### After You Read

#### Retell

1. Define PC and describe the three sizes of personal computers.
2. Some office machines are printers, scanners, fax machines, and photocopiers all in one. Explain what tasks these machines can do.

#### Think Critically

3. Do you prefer to keep records on paper or on the computer? Why?

### Math Practice

Answer the multiple-choice math questions at [ewow.glencoe.com/math](http://ewow.glencoe.com/math).

### Interest

You take out a loan to buy a computer system. The loan amount is \$8,000. The rate of interest is 8%. The term is for six years. How much interest will you pay?

#### Step 1

Multiply the loan amount by the rate of interest to determine the interest each year.

$$\$8,000 \times 0.08 = \$640$$

#### Step 2

Multiply the interest each year by the term.

$$\$640 \times 6 = \$3,840$$

#### Result

You will pay \$3,840 in interest. The total cost of the computer system will be \$11,840.

### Figure It Out

You purchase accessories for your computer. You borrow \$1,200 at a rate of 0.20 that is calculated monthly. You pay for the equipment over a 12-month period. What is the interest? What is the total cost of the accessories?



## Section 15.2

# Computer Applications

### Ready, Set, Read

#### Key Terms

software  
file  
folder  
word  
processing  
graphics  
spreadsheet  
database  
e-mail  
assistive  
technology  
computer  
ethics

#### Main Idea

Software applications are tools that let you do specific tasks on the computer. Understanding assistive technology and computer ethics is part of technological literacy.

#### Thought Organizer

Copy the chart below. As you read, fill in the blanks with the names of the applications described in the chapter.

#### Applications

- |                           |          |
|---------------------------|----------|
| 1. <u>word processing</u> | 4. _____ |
| 2. _____                  | 5. _____ |
| 3. _____                  | 6. _____ |

**software** ■ A set of instructions for a computer.

### Software Makes Computers Work

Hardware is one part of computers. Software is the other part of computers. **Software** is a set of instructions for a computer.

All computers use software called an operating system. An *operating system* is a program that directs the computer's activities. It also controls how the hardware and software work together. Most PCs use either Microsoft® Windows or Mac OS. Windows is used on IBM-compatible PCs. Mac OS comes with Apple computers. Both of these programs use windows. The picture on page 371 shows a window.

Computers also use software called applications. *Applications* are programs for specific tasks. There are applications for all kinds of tasks. Web designers use software to design Web sites. Accountants use software to write checks and file tax returns.

## Explore Icons and Menus

One way to learn software is to experiment with a program. Most software is easy to use. You use icons and menus to make your choices. An icon is a small picture that you click on to take an action. For example, you can click on an icon of a printer to print a document.

A menu is a list of options. For example, the “File” menu gives you the choice to open, close, or save a document. Most programs have a “Help” menu with information about using the program.

## Use Files and Folders to Organize Your Work

A document you name and save using software is called a **file**. You save a file by giving it a name and a location. The location can be any drive, such as the hard drive or the CD drive. Save your files often so that you do not lose any work. It is a good idea to save two copies of a file. Save one copy on a CD or a floppy disk.

Create folders on each disk to organize your files. A **folder** is a group of related files. Folders make it easy to find the files you need. Putting computer files in folders is like putting paper files in folders. All these folders go onto a disk, which is like a filing cabinet.

Give your files and folders names that are easy to remember. Use the “Search” or “Find” feature if you lose track of your work.

### While You Read

**Question** What is the difference between a file and a folder?

**file** ■ A document you name and save.

**folder** ■ A group of related files.

### Save Your Work

This computer user is saving files.

Why is it a good idea to save your files on a CD or floppy disk?



## Word-Processing Programs Let You Create Text and Graphics

**word processing** ■ Writing and editing text on the computer.

**graphics** ■ Pictures and symbols.

Word-processing programs are the most common type of software. **Word processing** is writing and editing text on the computer. A word-processing program lets you type, move sentences around, check your spelling, and more.

At work you can use word-processing programs to write letters and reports. You can add tables and columns to make your document more interesting. You can also add graphics. **Graphics** are pictures and symbols. Drawings, charts, and photos are types of graphics. You can even add multimedia. *Multimedia* means two or more media such as text, graphics, sound, and video.

Word-processing programs let you choose from many interesting fonts. A font is a special style of letters and numbers. The font of the text you are reading right now is called Palatino. You can change the font size and color. You can also add **bold**, *italics*, or underlining.

### While You Read

**Question** How could a spreadsheet program help you keep a budget?

**spreadsheet** ■ A program that works with numbers and math functions.

## Spreadsheet Programs Let You Organize Numbers

A **spreadsheet** is a program that works with numbers and math functions. Spreadsheets are useful for keeping records. A teacher might use a spreadsheet to keep records of students' scores. Businesspeople could use a spreadsheet to keep a record of money earned and spent.

Spreadsheets are flexible. You can add or delete rows and columns. You can make columns wider or narrower. You can also add formulas. A *formula* is a math function. A formula can add, subtract, multiply, or divide.

Spreadsheets use rows and columns to organize information. Each column has a letter such as A, B, or C. Each row has a number such as 1, 2, or 3. When a column and a row form a rectangle, it is called a *cell*. The photo on the next page shows a group of cells.

	A	B	C	D	E	F
1	River	Continent	Miles	Kilometers		
2						
3	Nile	Africa	4145	6669		
4	Amazon	South America	4000	6436		
5	Yangtze	Asia	3964	6378		
6	Mississippi	North America	3740	6017		
7	Yenisei-Angara	Asia	3442	5538		

**Columns and Rows** This small spreadsheet shows information about the five longest rivers in the world. Each row lists a different river. Each column lists a piece of information about the river. **What information is in cell A6?**

## Databases Let You Store, Sort, and Find Information

A **database** is a collection of information on a certain topic. A database could be a contact list. A database could be information about items for sale in a store.

Each column in a database is called a *field*. Each field has one type of information. For example, a field might contain names, phone numbers, or addresses. Each row in a database is called a *record*. A record is a group of fields. A record might contain a person's name, phone number, address, and e-mail address.

Databases let you search your information to find what you need. Databases also let you sort your information in different ways. For example, you could sort your contacts by last name or by addresses.

A database is a good way to keep information organized. For example, you might use a database to keep track of your job leads. You could input information for each lead. You could sort jobs by company type or company name.

You will probably use a database at work. Stores and other companies use databases to keep track of customers and process orders. They use databases to figure out what kinds of products or services they have.

**database** ■ A collection of information on a certain topic.

## Study Tip

Presentation software can help you give an oral report even if you do not have a computer in the classroom. Make slides with notes and main ideas. Then print out your slides and use them like index cards to give your report. You can even pass out printouts of your slides to the class.

## Presentation Software Helps You Give Oral Reports

*Presentation software* lets you give multimedia computer reports. Each display in a presentation is called a *slide*. You can make a short presentation with a few slides or a long presentation with many slides. Your slides can have text, art, photos, sound effects, and video clips. You can also add links to Web sites.

You can present your slide show on your computer. You can also project your slide show on the wall or on a screen.

## While You Read

**Connect** Where do you go to use the Internet?

## Web Browsers Let You Explore the World Wide Web

You need a Web browser and an *ISP* to connect to the Internet. A *Web browser* is software that lets you view Web pages. An *ISP* is a service that lets you connect to the Internet. *ISP* stands for Internet Service Provider. America Online is one well-known *ISP*. You pay a fee each month to an *ISP* for the Internet service.

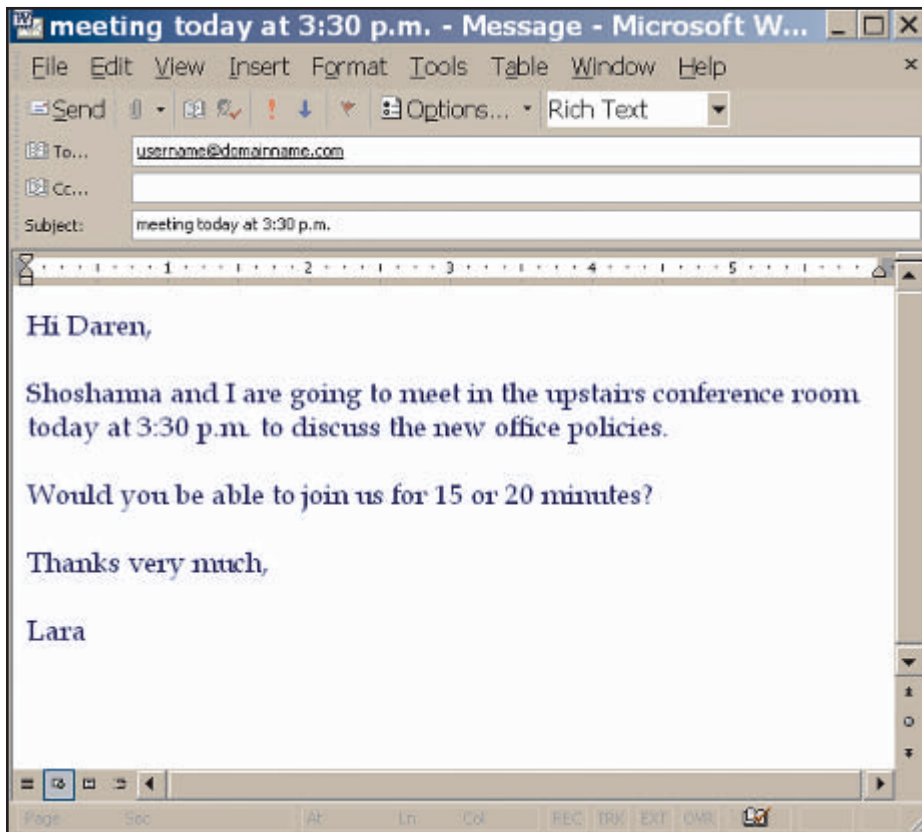
## Communications Software Lets You Share Information

Communications software lets you communicate with other computer users. For example, some programs let you receive faxes on your computer.

The most popular way to communicate by computer is e-mail. **E-mail** is sending and receiving messages by computer. E-mail is short for electronic mail. You can use e-mail to send and receive text and graphics. You can also attach files to e-mails to share them with others. You can create folders in your e-mail program to store messages you want to save.

You need an e-mail account to send and receive e-mail. Several Web sites offer free e-mail accounts. You can use these accounts to send, receive, and store e-mails. You will need to create a *username* and password for your account. A *username* identifies you. It is usually the first part of your e-mail address.

**e-mail** ■ Sending and receiving messages by computer.



## Fast Communication

E-mail is fast communication. However, it is still important to be polite and courteous. How is an e-mail different from a business letter?

**Send an E-Mail** Start an e-mail message by opening a new message window. Most e-mail programs have a “New” icon you can click to start a new message.

Now enter the e-mail address of a recipient. Your message will be returned to you if the address is not correct. You can enter one or more addresses on the *To:* line. You can also enter one or more addresses on the *Cc:* line. *Cc* stands for “carbon copy.” Use this line for people who you want to see the message.

Write the subject of the e-mail on the subject line. The subject line lets people know what the message is about. Write your text in the message window. You can also copy text from a word-processing program.

Reread your message before you click “Send.” Make sure your message is clear and polite.



## Assistive Technology Helps People With Disabilities

### assistive technology ■

Tools that help people with disabilities function better.

Another important kind of technology is assistive technology. **Assistive technology** is tools that help people with disabilities function better. Assistive technology is anything that makes it easier to accomplish tasks. These can be everyday physical tasks such as getting dressed or moving around. They can also be tasks such as reading, writing, and communicating.

Some assistive technology devices are very simple. For example, pencil grips make pencils easier to hold. Adjustable desks let each person put the monitor and keyboard at the right height. Tape recorders and tape players help people who learn well by listening. Talking calculators help people be sure they have entered the right numbers. Even eyeglasses are a kind of assistive technology.

### While You Read

**Visualize** What would it feel like to type with one hand?

## Assistive Technology Makes Computers Accessible to Everyone

Assistive technology helps people use computers better. For example, special keyboards help people who need to type with one hand. Mini keyboards help people who have limited motion.

Many Web sites are designed to help people with disabilities. For example, graphics on Web pages can help people who learn better through pictures than words. Text-only versions of Web sites describe pictures and graphics using words. This helps people with vision impairments.

Spell-check and grammar-check in word-processing programs help people who need help with writing. Screen enlargers let people with vision impairments see text more easily.

A lot of software has assistive technology features. For example, most Web browsers let you choose a font that is the best size for your eyesight. Most operating systems let you input commands and information with a microphone or touch screen.



**Computers Are for Everyone** New technology makes using computers easier to learn. Here a group of students is learning how to use the Internet by listening to a recording. **Do you learn better by reading or by listening? Explain.**

**Computers Can Read Text Out Loud** *Screen readers* let computers speak text out loud. This helps people who have vision impairments. They can also hear descriptions of pictures and moving graphics. Hearing text is also helpful for people who are better listeners than readers. It can also help people who like to read and listen at the same time.

### **Computers Can Understand Spoken Words**

*Voice-recognition software* lets people use a microphone instead of a keyboard. You talk into a microphone. The computer changes the sounds into typed text. You can then read the text and fix any mistakes you might find. Voice-recognition software helps people who have trouble writing or typing on a keyboard.

### **While You Read**

**Question** Who could benefit from voice-recognition software?

## Computer Ethics Are Standards of Right and Wrong Computer Use

### computer ethics ■

Standards of right and wrong computer use.

Computers are powerful tools. The way you use computers can affect other people. That is why it is important to think about computer ethics. **Computer ethics** are standards of right and wrong computer use.

*Computer hackers* are people who do not follow computer ethics. They break into a computer systems without permission. They may break into a system just for fun. They may break into a system to steal money or information.

Computer hacking is against the law. Some hackers try to spread computer viruses to other people's computers. A *computer virus* is a program that goes onto your computer without your knowledge and destroys or changes information. Most computer viruses are transmitted, or passed on, by e-mail. Be careful about opening e-mails or documents that come from people you do not know.

### While You Read

**Connect** Have you ever used a computer that was part of a network?

### Respect Other People's Work

You may work on a computer network at your job. A *network* is two or more computers linked together. There may be files from many different people stored on the network. Do not look at other people's files without permission. Do not delete files or programs that belong to others.

**Respect Copyrights** Most software programs have a copyright. The © symbol tells you that a product has a copyright. This means that a person or company owns the software. You need permission to copy this software. Copying or using software without permission is called *software piracy*. It is stealing from the developer of the software.

People's ideas belong to them too. You are stealing if you copy other people's words or graphics without permission. Always list the source when you use text or graphics from the Internet.

# Making Good Choices

## Telling the Truth

Abdel Yassin works in an insurance company. He needed an immediate answer about an account when he was away from his desk. He asked Sylvia if he could use her computer. Sylvia agreed to let Abdel use her computer while she was at the copy machine. Abdel accidentally saw an e-mail on Sylvia's computer. The e-mail suggested that Sylvia was stealing company supplies. Abdel thought he should report the theft, but he was afraid he would get into trouble because it is against company policy to look at coworkers' e-mail.

**You Make the Call** What options does Abdel have in this situation? What do you think Abdel should do?

For help in answering this question, visit [ewow.glencoe.com/tips](http://ewow.glencoe.com/tips) and find the *Smart Tip* for Chapter 15 *Making Good Choices*.

## Follow Your Company's Computer Rules

Most companies have rules for how their workers can use their work computers. For example, you should not use work e-mail for personal messages. You should not reveal secret information about your company. You should not surf the Internet on work time. Never use e-mail or the Internet for inappropriate content. You could be fired. Your company could be sued.

**Use E-Mail Etiquette** Be careful when you write e-mail. Write when you are calm, not when you are in a hurry or upset. Use standard English. Be brief and clear. Use correct grammar, spelling, and punctuation. Do not write in all capital letters. People will think you are shouting.

Remember that your writing reflects on your company. Be polite. Sign your e-mail with your name.



## Section 15.2

### Review

Check your answers online by visiting [ewow.glencoe.com/review](http://ewow.glencoe.com/review) and selecting the Section 15.2 Review.

### Math Practice

Answer the multiple-choice math questions at [ewow.glencoe.com/math](http://ewow.glencoe.com/math).

### After You Read

#### Retell

1. Describe the two main types of software.
2. Explain why companies have rules saying what workers can and cannot do with company e-mail and Internet programs.

#### Think Critically

3. Making a copy of copyrighted software is called piracy. It is illegal. Do you think it is wrong to use software you did not buy? Why or why not?

### Computers at Work

You use your computer to track your business's gross income and net income. If your gross sales for one year totals \$56,000 and the company's income tax is 29%, what is the net profit?

#### Step 1

Multiply gross sales by the income tax.  
 $\$56,000 \times 0.29 = \$16,240$

#### Step 2

Subtract the income tax from the gross profits.  
 $\$56,000 - \$16,240 = \$39,760$

#### Result

Net profits equal \$39,760.

### Figure It Out

Your business will donate 12% of its net profit to the community for every dollar it makes over \$250,000. If the company makes \$467,982, what is the total amount that will be donated?



## Chemist

**Judy Summers-Gates**  
Pennsylvania



**Career Cluster: Science, Technology, Engineering, and Mathematics**

### What does a chemist do?

“I work in a lab. I analyze color additives in food, cosmetics, anything with color added. I work for the Food and Drug Administration. We make sure the color added to products is safe for consumers.”

### Why did you choose a career as a chemist?

“I was always fascinated with what things are made of. When I was a little kid I had a million questions. I wanted to know things like why bananas grow on trees and peanuts grow underground.”

### What obstacles have you overcome?

“Because of damage from multiple sclerosis, I have attention deficit disorder. Also I’m visually impaired, have non-clotting blood so I bleed for hours when I’m bruised, and I use either crutches or a wheelchair. People think I can’t do something, or wouldn’t want to do something because of my disability.”

### What advice do you have for students?

“Don’t buy into the negative expectations people have of you. Even if something is hard, you can get through it.”

## Chemist

### Training

A bachelor’s degree in chemistry or a related field is required. Many research jobs require a master’s degree or a Ph.D.

### Skills and Talents

Chemists need good science and math skills. Curiosity, creativity, and attention to detail are also helpful.

### Career Outlook

Employment of chemists will grow at an average rate through 2012. There will be jobs in medicine and in scientific research.

### Learn More About It

Work with a partner. Use the Internet to research careers in science, technology, engineering, or mathematics. With your partner, design a graphic organizer that shows different jobs under one of these main four careers. Include the title of the job, a short description, the job outlook, and education needed. Display your graphic organizers around the room.

For help with this activity, visit [ewow.glencoe.com/tips](http://ewow.glencoe.com/tips).



# Chapter 15 Review and Activities



Go to [ewow.glencoe.com](http://ewow.glencoe.com) to find online games and activities for Chapter 15.

## Key Term Review

technological literacy (p. 360)	file (p. 369)
personal computer (PC) (p. 361)	folder (p. 369)
hardware (p. 362)	word processing (p. 370)
disk drive (p. 363)	graphics (p. 370)
peripheral (p. 364)	spreadsheet (p. 370)
scanner (p. 364)	database (p. p. 371)
voice mail (p. 366)	e-mail (p. 372)
fax machine (p. 366)	assistive technology (p. 374)
software (p. 368)	computer ethics (p. 376)

## Check Your Understanding

1. Sketch and label the five parts of a personal computer.
2. List and define three peripherals or office machines.
3. Describe the main uses of word-processing software, database software, spreadsheet software, and presentation software.
4. Define assistive technology and give two examples.
5. Explain why it is important to use computers ethically.

## Write About It

6. **Write an Acceptable Use Policy** An acceptable use policy says what workers may and may not do on their work computers. For example, it says what types of Web sites workers may visit. It says what types of things they should not say in e-mail. Pretend that you are starting a company. Write an acceptable use policy for your employees.



## Role Play

- 7. Show Your Technology Skills** Work with a partner. One student plays an interviewer. The other student plays a job applicant. As the interviewer, ask the applicant specific questions about his or her computer skills. As the applicant, describe the hardware, software, and office machines you know how to use.

## Teamwork Challenge

- 8. Set Up an Office** Imagine that you and your team want to start a business. You need office machines and a computer. Plan what your business will do and what hardware and software you will need. For example, will you need word-processing software? Will you need a scanner? Write a summary of the technology you will need. Research prices on the Internet and add them to your plan.

### Computer Lab



**Make a Web Page** Most word-processing programs let you create simple Web pages. Use a word-processing program to format your résumé as a Web page. Format your résumé with graphics.

### Personal Career Portfolio

**Create a Technology Skills Chart** Use a spreadsheet to make a chart of the technology you know how to use. Make a chart with three columns. In the first column, list the name of the technology. In the second column, give the definition of the technology. In the third column, explain how much experience you have with the technology.

Go to [ewow.glencoe.com/portfolio](http://ewow.glencoe.com/portfolio) for help.

