

P A R T 3

Resources and Skills

Unit 22 Library and Reference Resources	640
Unit 23 Vocabulary and Spelling	663
Unit 24 Study Skills	694
Unit 25 Taking Tests	715
Unit 26 Listening and Speaking	754
Unit 27 Viewing and Representing	779
Unit 28 Electronic Resources	795

UNIT
22

Library and Reference Resources

Lesson 22.1	The Sections of a Library	641
Lesson 22.2	Call Number Systems	644
Lesson 22.3	Library Catalogs	646
Lesson 22.4	Types of Reference Works	649
Lesson 22.5	Searching for Periodicals	653
Lesson 22.6	Using the Internet and Other Media	655
Lesson 22.7	The Dictionary	657
Lesson 22.8	The Thesaurus	661

22.1

The Sections of a Library

Learning how a library is organized can help you unlock a wealth of information. Although no two libraries are exactly alike, all libraries group like things together. Books for adults are in one section. Children's books are in another. Novels and stories are usually separate from information books. Magazines and newspapers have their own section. So does audiovisual material. Look at the photo below. What familiar parts of a library do you recognize? Turn the page to see how a typical library is organized.

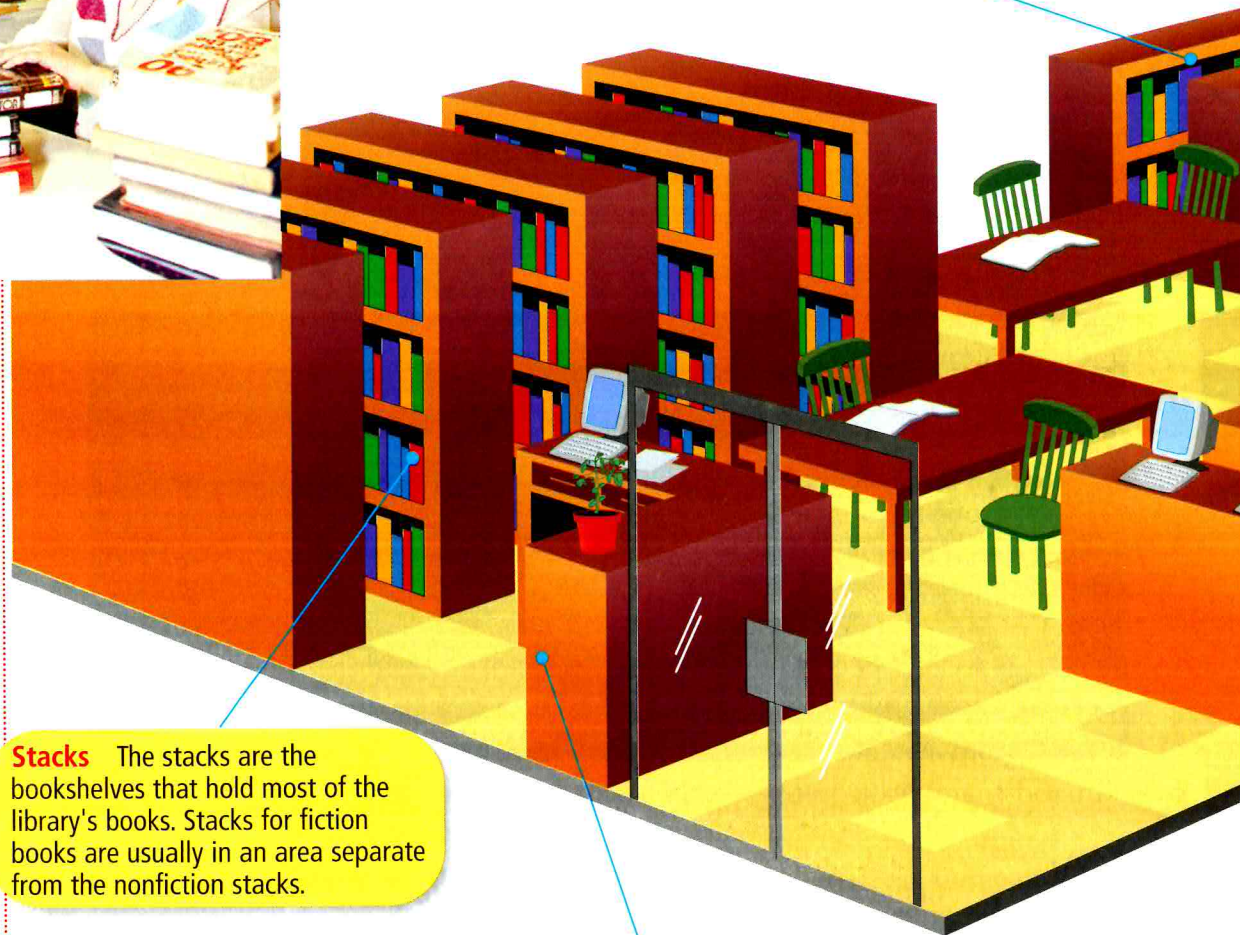


No two libraries are alike, but most of them share the same characteristics and have similar resources.



Librarian A librarian can be the most important resource of all. He or she can help you use the library wisely by directing you to different resources, showing you how to use them, and giving you advice when needed. You might want to prepare your questions for the librarian ahead of time. Librarians are prepared to help their patrons and will be glad to answer questions.

Young Adult and Children's Section Young readers can find books written for them in a separate area of the library. Sometimes reference materials for students are also shelved here, along with periodicals and audiovisual materials.



Stacks The stacks are the bookshelves that hold most of the library's books. Stacks for fiction books are usually in an area separate from the nonfiction stacks.

Circulation At the circulation desk, you can use your library card to check out materials you want to take home.

Reference The reference area holds dictionaries, encyclopedias, atlases, and other reference works. Usually, you are not allowed to check out these materials. They are kept in the library so everyone has access to them. Computer databases are also part of the reference area. These systems allow you to search for facts or articles from periodicals. For example, *InfoTrac* provides complete articles and article summaries from over one thousand newspapers and magazines. Some computer databases allow you to search for particular types of information, such as history or art. Computers in the reference section, or in a media center, provide access to the Internet.

Periodicals You can find current issues of periodicals—newspapers, magazines, and journals—in a general reading area. Periodicals are arranged alphabetically and by date. Older issues may be available in the stacks or on microfilm or microfiche. Use the computer catalog to locate them or ask a librarian to help you.

Audio Visual Materials Compact discs (CDs), videotapes, digital videotapes (DVDs), and computer software are in the audiovisual section. In this section, you can check out a movie, a CD of your favorite music, or an audiobook. Some libraries have listening and viewing areas to allow you to review the materials while at the library.

Catalog The catalog lists, describes, and locates items in the collection. Most libraries use computer catalogs.

Exercise 1

In which section of the library might you find these items?

1. A compact disc of the musical *Cats*
2. The magazine *American Heritage*
3. *To Kill a Mockingbird* (a novel)
4. The *Dictionary of American Biography*
5. The video of *The Call of the Wild*

22.2

Call Number Systems

In a library, are labeled with numbers and letters. These numbers and letters are part of the system the library uses to organize its collection.

Many libraries use the Dewey decimal system. Under this system, a library uses numbers to group books into ten categories of knowledge. Other libraries use the Library of Congress system. This system uses letters, then numbers, to group books.

Ask your librarian which system your library uses. It's best, however, to know how each system works. You also should know where your library has posted the chart that identifies and explains the system it uses. Both systems are shown in the chart below. When doing library research, you will have to begin by deciding which major category or categories your topic falls into.

Library Classification Systems			
Dewey Decimal System		Library of Congress System	
Numbers	Major Categories	Letters	Major Categories
000–099	Computers, information, and general reference	A, Z	General works
100–199	Philosophy and psychology	B	Philosophy, religion
200–299	Religion		
300–399	Social sciences	H, J, K, L	Social sciences, political science, law, education
400–499	Language	P	Language
500–599	Science	Q	Science
600–699	Technology	R, S, T, U, V	Medicine, agriculture, technology, military and naval sciences
700–799	Arts and recreation	M, N	Music, fine arts
800–899	Literature	P	Literature
900–999	History and geography	C–G	History, geography, recreation

Each general category contains subcategories. The first number or letter always indicates the main category and will be followed by other numbers or letters. The diagram below shows how each system works.

How the Two Systems Work		
Dewey Decimal	Description	Library of Congress
700	A book about art	N
750	A book about painting (a subcategory of art)	ND
759	A book about Spanish painting (a subcategory of painting)	ND800
759.609	<i>The Story of Spanish Painting</i>	ND804

Exercise 2

- Suppose a library used the Dewey decimal system. What number (in the hundreds) would it use to show the category of each of the following books?
 - A History of Colonial America*
 - Science for the Nonscientist*
 - Language Made Easy*
 - World Religions*
 - The Novels of Charles Dickens*
- At your school or neighborhood library, find an interesting book in each section listed below. Write down the book's title, topic, and full Dewey decimal or Library of Congress call number.

a. 200–299 or B	c. 400–499 or P	e. 900–999 or C
b. 300–399 or H	d. 500–599 or Q	

22.3

Library Catalogs

So many books, so little time! Maybe you've had this thought since you began your research at the library. The library catalog makes searching for books easier and saves you time.

Using a Computer Catalog

The computer catalog lists all the books, periodicals, and audiovisual materials in the library. You can search for these materials by title, author, subject, or keyword. A *keyword* is a word or phrase that describes your topic. If you type an author's name, you can view a list of all the books written by that author. By typing a subject, you can view all the books about that particular topic. The computer catalog tells you the title, author, and call number of each book, and whether it is available for check out.

For example, suppose you are looking for books by the writer Milton Meltzer. Your computer search might proceed as follows:

1. Type in the author's name, *Meltzer, Milton*.
2. The computer will show a list of all the books in the library by this author. Each item will have a call number.
3. Type the call number of the book you are interested in to get more information about it.
4. Information about the book will appear, including the book's location and availability.

The way the computer catalog works may differ slightly from library to library. Follow the on-screen directions to use any computer catalog. If you have trouble with your search, ask a librarian for help.

1. Title: All Times, All Peoples: A
World History of Slavery
Author: Meltzer, Milton
Published: 1980
Media: Book Call No: 326 M528a

2. Title: American Politics: How It
Really Works
Author: Meltzer, Milton
Published: 1989
Media: Book Call No: 320.473
M528a

3. Title: American Politics: How It
Really Works
Author: Berger, Melvin
Published: 1989
Media: Book
Call No: 320.473 M528a

The Library owns 2 copies of this book. It
is shown as available at:

Main Branch	Juvenile
East Branch	Juvenile

To search enter one of the following
commands:

A/Author-name	to find items by author name
T/Title	to find items by title
S/Subject	to find items by subject
KW	to find items by WORD or NAME or to COMBINE WORDS
AY	to see your reserves/ checkouts/fines

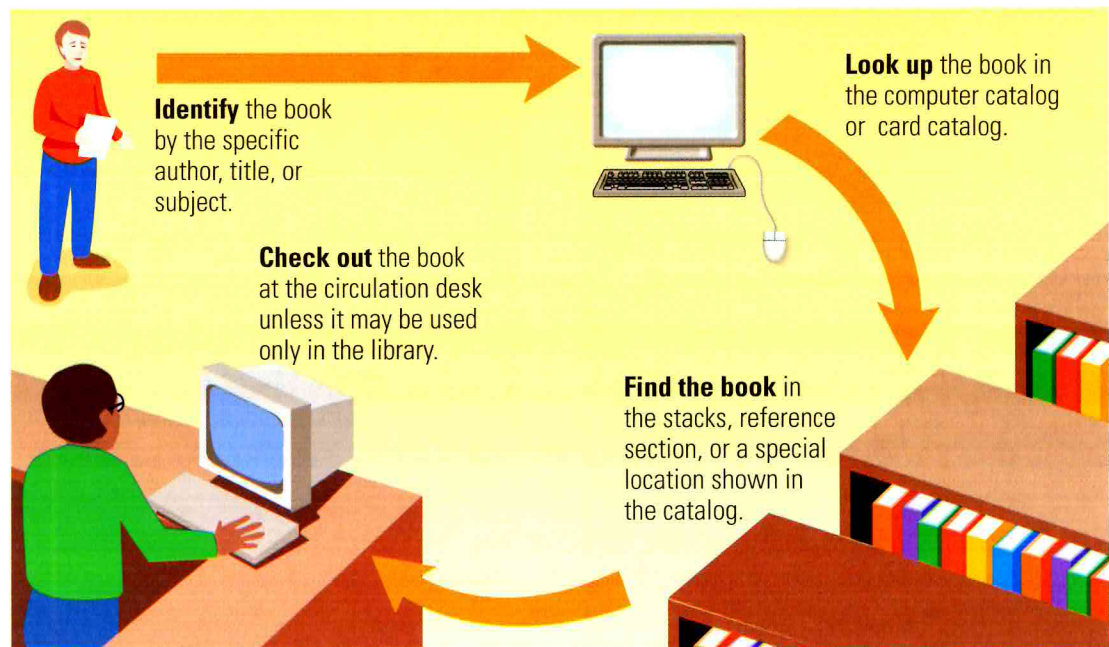
Using a Card Catalog

Some libraries use an older method of organizing books called a card catalog. A card catalog is a cabinet of long narrow drawers that holds cards arranged alphabetically. Each card contains the description of a book and has that book's call number in the upper left-hand corner. Fiction books have an author card and a title card. Nonfiction books have subject cards as well. Because each book has two or three or more cards, a book can be found by searching under its title, its author, or sometimes its subject.

Finding a Book

When you have located a book you want in the catalog, write down the call number shown on the card or computer screen. Note the area in the library where the book is shelved. You will use this information to locate the book.

In the stacks, signs on the shelves tell which call numbers are included in each row. Books with the same call number are alphabetized by the author's last name or by the first author's last name when there is more than one author.



Exercise 3

Use the card catalog or computer catalog to find a book about any five of the following topics. List the author, title, and call number of each book you find.

1. The brain
2. The development of television
3. Poetry by X. J. Kennedy
4. Marsupials
5. The Spanish language
6. Professional football
7. Mountains
8. The mind

22.4

Types of Reference Works

When you look up the answer to a question or read a book to find information for social studies class, you are doing research. When you check with friends who know more than you do about your bike, you are doing research. For research you need experts. You'll find the opinions and discoveries of many experts in the reference materials in your library.

Reference works are designed to help you locate specific information quickly. You may be doing research for a class project, looking for a single fact, or just feeling curious about a topic. Whatever your purpose, the reference area offers many interesting resources.

The chart below describes some general types of reference sources found in most libraries. Find out where each of these kinds of references is kept in your public library. Locate those references that are available in your school library or classroom as well. You can also access many reference sources by using a computer to go online.

Using General Reference Works to Answer Questions		
Questions	Where to Look for an Answer	Examples of Sources
When did Henry Ford introduce the Model T?	Encyclopedias include general information on a variety of topics.	<ul style="list-style-type: none"> • <i>World Book Encyclopedia</i> • <i>Grolier Online</i> • <i>Encyclopaedia Britannica</i>
What major cities are on the Ohio River?	Atlases are collections of maps. They often include special maps on climate, population, and other topics.	<ul style="list-style-type: none"> • <i>Hammond World Atlas</i> • <i>The Rand McNally World Atlas</i>
Who received the Nobel Peace Prize in 2004?	Almanacs provide lists, statistics, and other information on recent and historical topics.	<ul style="list-style-type: none"> • <i>Information Please Almanac</i> • <i>Guinness Book of World Records</i>
Where was Mark Twain born?	Biographical reference works include biographies of notable persons, both past and present.	<ul style="list-style-type: none"> • <i>Dictionary of American Biography</i> • <i>Webster's Biographical Dictionary</i>

Encyclopedias

You will find one-volume encyclopedias and sets made up of many volumes. Encyclopedias may be either general or specialized. General encyclopedias contain articles about all branches of knowledge. Specialized encyclopedias present articles in a specific area of knowledge, such as history, science, or the arts. Two examples of specialized encyclopedias are the *McGraw-Hill Encyclopedia of Science and Technology* and *The Focal Encyclopedia of Photography*.

Most encyclopedias are organized alphabetically. To find all of the articles with information on your topic, look up the topic in the index. The index is usually the last volume of a multi-volume encyclopedia. It contains an alphabetical listing of topics. After each topic, you will find the subjects related to the topic you are investigating. The index tells you the volume and page number of the article where you will find the information. Sometimes the index refers you to a different topic heading for a list of articles.

Many encyclopedia entries end with a list of books that contain additional information. These books may be available at your library. The entry may also list other related articles in the encyclopedia.

Atlases

Atlases are collections of maps. General atlases contain maps of all parts of the world. In a general atlas, you can find map information about population, industry, farming, and other topics for all parts of the world. These atlases may also contain graphs, charts, and pictures. For example, the *National Geographic Atlas of the World* includes satellite images of the earth's major regions.

Some atlases are specialized. They may cover one part of the world, such as a single country. Others have maps on a special topic, such as population, the environment, or animals. Travelers often rely on atlases that show highways, national parks, and places of interest to tourists. Historical atlases contain maps for different periods in history and various parts of the world.



Almanacs and Yearbooks

If you're looking for very current information or statistics, consult almanacs and yearbooks. These references contain the most recent available information on a variety of topics. A new edition is published every year.

Two widely used almanacs are the *Time Almanac with Information Please* and the *World Almanac and Book of Facts*. Both cover a wide range of information, from baseball statistics to the latest scientific discoveries. Much of the information is presented in the form of lists or tables.

A yearbook is a book issued each year by some encyclopedia publishers to update their regular encyclopedia volumes. It contains articles about events and developments of that year. The yearbooks for an encyclopedia generally follow the *Z* volume or the *Index* volume on the reference shelf.



Relevancy: 100;
Date: 07-04-1996
Reading Level: 7.

RUNAWAY FAVORITES: Coaster to coaster, Americans love life on the fast tracks; The Dallas Morning News *Ellen Sweets/Staff Writer of The Dallas Morning News*; 07-04-1996 Size: 11K



Relevancy: 100;
Date: 07-14-1997
Reading Level: 8.

On a roll; Minneapolis StarTribune *Paul Levy; Staff Writer*; 07-14-1997 Size: 10K



Relevancy: 100;
Date: 05-07-1999
Reading Level: 8.

Rock on wood Busch Garden's dual coaster will have rider shaking, shimmying and rolling; The Tampa Tribune *PHILIP MORGAN of The Tampa Tribune*; 05-07-1999 Size: 8K



Relevancy: 100;
Date: 08-30-1999
Reading Level: 8.

WHAT WENT WRONG AT WILD WONDER?; The Record (Bergen County, NJ) *SEAMUS McGRAW, Staff Writer*; 08-30-1999 Size: 10K



Relevancy: 100;
Date: 08-31-1999
Reading Level: 8.

INDUSTRY MEASURES SUCCESS IN SCARES; The Record (Bergen County, NJ) *DOUG MOST, Staff Writer*; 08-31-1999 Size: 9K



Relevancy: 100;
Date: 07-30-1998
Reading Level: 11.

ROLLER COASTERS ARE AS OLD AS THE HILLS; St. Louis Post-Dispatch *Gary A. Warner*; 1998, *The Orange County Register*; 07-30-1998 Size: 4K



Relevancy: 100;
Date: 04-29-1999
Reading Level: 11.

Countdown for Opening Of Transformed Six Flags; Theme Park's Coasters Almost Ready to Roll; The Washington Post *Jackie Spinner Washington Post Staff Writer*; 04-29-1999 Size: 5K

Look over your display results carefully. The display screen gives you important information about each article. It includes the title, the author, the source, and the date of the article. It also provides the article's reading level and *relevancy*—an estimate of how closely this article is related to your search item.

Exercise 5

Look at the sample screen and answer these questions.

1. Which of these articles might be difficult reading for an eighth grader?
2. Which are the two most current articles?
3. In your opinion, what term paper topics about roller coasters might these articles suggest?
4. What do you need to do to read the full text of one of these articles?

22.6

Using the Internet and Other Media

Libraries offer several kinds of media. The word *media* (singular *medium*) means methods of communication, such as newspapers, magazines, movies, and television. During the 1990s, a new medium rose to prominence—the Internet.

The Internet

Computers at your public library will also provide access to the Internet, a valuable source of information. The World Wide Web is the part of the Internet that provides information in various formats, including print, sound, graphics, and video.

Because there are so many Internet sites, the best way to find worthwhile information on the Net is by using a *search engine*. If you do not get any useful results with one search engine, try several others. They each search the Internet differently.

All Internet sources are not equally reliable, however. Always check any site for accuracy and timeliness. Check to see when it was last updated. Check for errors and omissions. Check to see what agency sponsors the site. Many libraries now provide a collection of recommended Web sites.

Online or Virtual Libraries Online or virtual libraries on the Internet are important reference sources. You can connect from home if you have access to a computer and a modem. Examples of excellent online reference sites include: *The Internet Public Library*, hosted by Drexel University's College of Information Science and Technology and the Virtual Reference Shelf, a site with selected Web resources compiled by the Library of Congress.

Some Additional Internet Search Terms

Term	Definition
Abstract	a summary of an article or information source.
Discussion Groups	a virtual place where you can discuss problems and current events.
Hit	a successful result after you have searched online.
Full Text	term indicating that all of an article is present online. However, sometimes full-text articles do not include charts and graphics.
Search Engine	computer software that browses the Internet for places where your search words appear. Examples are Google, MSN, Ask, and Yahoo! Search.
URL	stands for Universal Resource Locator. This is an address for a Web site.

Finding Synonyms

Knowing how the thesaurus is arranged can help you find the exact word you need. You can see from the samples on the previous page that each definition is followed by several synonyms or by a cross-reference to another entry. Synonyms, you recall, are words that have *similar* meanings. The thesaurus can help you distinguish among many synonyms to find the most exact one.

The words in capital letters lead you to further synonyms. If you look up a word shown in capital letters, you will find a definition and many additional synonyms. *Dexterous*, for example, means *clever*, but in a specific way: exhibiting or possessing skill or ease in performance. Your expert handling of a bike might be called dexterous. Conversation on a talk show may be clever, but it is not necessarily dexterous.

Most libraries will have more than one type of thesaurus available. A similar resource, a dictionary of synonyms, is also available to help you locate the most precise word. One example is *Merriam-Webster's Collegiate Thesaurus*.

Many thesauruses list antonyms—words with opposite meanings—as well as synonyms. Your library may have *Webster's Collegiate Thesaurus*, which includes antonyms. For more information on synonyms and antonyms, see pages 676–678.

Exercise 8

Use a thesaurus to find two synonyms for each word below. Then write an original sentence to illustrate the meaning of each synonym. Check the exact meaning of each word in a dictionary before you use it in a sentence.

1. speak (verb)
2. run (verb)
3. thin (adjective)
4. foam (noun)
5. shiny (adjective)

UNIT
23

Vocabulary and Spelling

Lesson 23.1	Words from American English	664
Lesson 23.2	Context Clues	668
Lesson 23.3	Prefixes and Suffixes	671
Lesson 23.4	Synonyms and Antonyms	676
Lesson 23.5	Homographs and Homophones	679
Lesson 23.6	Spelling Rules	682
Lesson 23.7	Becoming a Better Speller	691



Words from Immigrants

Over the centuries millions of immigrants—Italians, Poles, Czechs, Greeks, Chinese, Filipinos, Haitians, Cubans, and many more—came to America. They passed on some of their customs and some of their words to Americans. These words became part of American English. Often the use of the words spread from the United States throughout the English-speaking world. Some examples are included in the chart on the previous page.

Words Made in America

Americans have also contributed new words that did not originate in another language. *Okay* is an example of a word that was “made in the U.S.A.” Inventions and customs that started in America often led to new words. Some examples are *refrigerator*, *telephone*, *jeep*, *inner city*, *flow chart*, *zipper*, *laser*, and *airline*. Like *okay*, these words are now used throughout the world. Can you think of any other words that were probably made in America?



Jukebox

Exercise 1

Work with a small group. Develop a list of more English words that originated in America. The words can have come from Native American languages or from the languages of immigrants to America. They might be words invented by Americans.

Begin by looking at the place names in your area. Where did the names of mountains, rivers, counties, or cities come from? Look in your library for books or articles on the origins of place names. Think about the names of foods you eat that originated in other countries. If family members or friends are recent immigrants, ask them if they know of any American English words that came from their language. Use your dictionary to check the origins of words on your list.

WORDWORKS

TECHNO-TALK

What do the words *nylon*, *silo*, and *gearshift* have in common? All these words—and countless others—entered the English language as a result of developing technology. New machines, products, and processes required a new vocabulary.

Technical words enter the language by different routes. Some words are coined. A coined word is simply created—none of its parts have any meaning by themselves. For instance, in 1938 scientists developed synthetic fiber, and the word *nylon* was coined as a name for it.

Another route into English is through borrowing. The word *silo* was borrowed into English in 1881 as a name for an airtight container for fodder, or food for livestock. The word is Spanish in origin and carries the same meaning in that language.

Another way languages gain new technical words is

by compounding. The word parts *gear* and *shift* have existed in English for a long time. It was only because of developing technology that they were combined to name a part of an automobile transmission. Other examples of combining include *transmission* (from Latin word parts) and *telephone* (from Greek word parts). Some words for new inventions originated as names of people; *Ferris wheel* is an example.

Tele—
far off
or distant
television
telephone
telescope
teletext
telephoto

Challenge

What new technology uses the word *silo*? Think of another technology that named a product a tweeter. How do the original meanings of these words fit the new ways in which they are used?

ACTIVITY

Name That Invention

Create several names for the imaginary inventions listed below. Use any of the sources for word formation.

1. a car for air, water, and all surfaces
2. a thermal container that will biodegrade within twelve hours
3. earphones that don't "leak" noise and that allow for loud music without damage to hearing

23.2 Context Clues

Do you check your dictionary every time you read or hear a new word? Probably not—most people don't. The best way to build your vocabulary is to be an avid reader and an active listener. You also can learn the meaning of a new word by looking for context clues. The words and sentences around the word are its context.

Using Specific Context Clues

Context clues help you unlock the meaning of an unfamiliar word. Sometimes the context actually tells you what the word means. The following chart shows three types of specific context clues. It also gives examples of words that help you identify the type of context clue.

Using Specific Context Clues		
Type of Context Clue	Clue Words	Example
Comparison The thing or idea named by the unfamiliar word is compared with something more familiar.	also same likewise similarly identical	A <i>rampant</i> growth of weeds and vines surrounded the old house. The barn was <u>likewise</u> covered with uncontrolled and wild growth.
Contrast The thing or idea named by the unfamiliar word is contrasted with something more familiar.	but on the other hand on the contrary unlike however	Thank goodness Martin didn't <i>bungle</i> the arrangements for the party; <u>on the contrary</u> , he handled everything very smoothly and efficiently.
Cause and effect The unfamiliar word is explained as a part of a cause-and-effect relationship.	because since therefore as a result	<u>Because</u> this rubber raft is so <i>buoyant</i> , it will float easily, and we won't have to worry about its sinking.

Using the General Context

How do you figure out an unfamiliar word if there are no specific context clues? With a little extra detective work you often can find general clues in the context. Look at the two sentences below. What context clues help you understand the meaning of the word *liaison*?

Note that the word *communication* helps you figure out that being a liaison means acting as a line of communication between two groups.

Joel was chosen student liaison to the faculty. Everyone hoped his appointment would improve communication between the students and the teachers.

Joel is a liaison from one group (the students) to another (the faculty).

Exercise 2

Divide the words below between you and a partner. Use a dictionary if necessary to find the meanings of your words. Then write a sentence using each one. Your sentences should contain context clues to help a reader figure out the meanings of the words. Try to use different types of context clues in the sentences.

Next, exchange papers with your partner and read his or her sentences. Try to use your partner's context clues to understand the words from the list. Discuss how your context clues helped you and your partner understand the meanings of each other's words.

1. depreciate
2. collaborate
3. fathom (noun)
4. adobe
5. crucial
6. olfactory
7. refulgence
8. fathom (verb)
9. omnipotent
10. brinkmanship

WORDWORKS

AS STALE AS DAY-OLD BREAD

If you listen to a CD over and over, most likely you'll get tired of listening to it. Hearing a cliché is something like listening to that CD.

Clichés are expressions you have heard many times before. All clichés, though, were once fresh and original. Some clichés have been in use for centuries. For example, the phrase *I'm all ears* originated in 1634. That's when John Milton (1608–1674) wrote in *Comus*, "I was all ear."

Challenge

Rewrite the following without the clichés:

Beyond a shadow of a doubt, too many clichés will put you in hot water. Sad but true, a cliché sticks out like a sore thumb. Avoid clichés like the plague.

As you can see, sometimes clichés develop through alteration of the writer's or speaker's original words. If you've ever told someone a secret, you may have said, "This is between you and me." That expression comes from a novel by Charles Dickens (1812–1870) called *Nicholas Nickleby* (1838). Dickens's phrase in the book, however, was "between you, me, and the lamp-post." This form of the cliché is still in use, although it is much less popular now than in previous generations. Another cliché, *cool as a cucumber*, can be traced to the

playwrights Francis Beaumont and John Fletcher. Their phrase in the seventeenth-century play *Cupid's Revenge* was "cold as cucumbers."

ACTIVITY

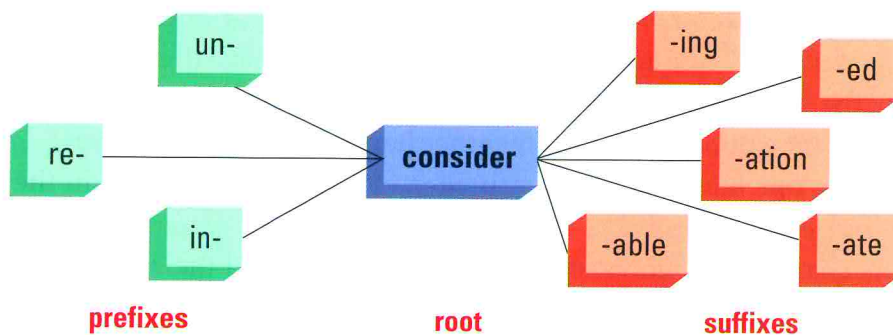
Do these Clichés Ring a Bell?

Look up the following clichés in *Bartlett's Familiar Quotations* or another reference book, and record the sources.

1. as old as the hills
2. vanish into thin air
3. busy as a bee
4. few and far between
5. Variety is the spice of life.

23.3

Prefixes and Suffixes



The illustration above shows how word parts can be put together to form many different words. These word parts are called roots, prefixes, and suffixes.

Roots

The **root** of a word carries the main meaning. Some roots (like the word *consider* above) can stand alone. Others (like *lect*, shown in the chart below) make little or no sense without a prefix or suffix. Knowing the meanings of roots can help you figure out the meanings of unfamiliar words.

Word Roots		
Roots	Words	Meanings
<i>bio</i> means "life"	biography biosphere	the story of a person's life part of the atmosphere where living things exist
<i>dent</i> means "tooth"	dentist trident	person who treats diseases of the teeth spear with three prongs, or teeth
<i>flex</i> or <i>flec</i> means "to bend"	flexible reflect	easily bent to bend back (light)
<i>lect</i> means "speech"	lecture dialect	a speech form of a language spoken in a certain region
<i>tele</i> means "distant"	television telescope	device for receiving pictures from a distance device for viewing distant things

Prefixes

A **prefix** is a syllable used in front of a word root. Adding a prefix can change, or even reverse, the meaning of a root (for example, *belief—disbelief*). In English, a number of prefixes have the same, or nearly the same, meaning. For example, *dis-*, *un-*, and *in-* all can mean “not” or “the opposite of.” On the other hand, some prefixes have more than one meaning. The prefix *in-* can also mean “into,” as in the word *incise* (“to cut into”).

The chart below shows some common prefixes and their meanings. Notice in the example words how the prefixes change the word root’s meanings. Learning these prefixes can help you figure out unfamiliar words.

Prefixes			
Categories	Prefixes	Words	Meanings
Prefixes that reverse meaning	<i>un-</i> means “not” or “the opposite of”	unnatural unhappy	not natural not happy
	<i>in-</i> means “not” or “the opposite of”	inconsiderate intolerant	not considerate not tolerant
	<i>il-</i> means “not” or “the opposite of”	illegal illogical	not legal not logical
	<i>im-</i> means “not” or “the opposite of”	immoderate imbalance	not moderate lacking balance
	<i>ir-</i> means “not” or “the opposite of”	irregular irreplaceable	not regular not able to be replaced
Prefixes that show relations	<i>pre-</i> means “before”	prepay prearrange	to pay in advance to arrange beforehand
	<i>post-</i> means “after”	postdate postpone	to assign a later date to delay until a later time
	<i>sub-</i> means “below” or “beneath”	submarine subway	an underwater boat an underground way or passage
	<i>co-</i> means “with” or “partner”	copilot cooperate	relief or second pilot to work with others

Suffixes

Suffixes are syllables added to the end of a word root. Like prefixes, suffixes change the meanings of roots. Like prefixes, they can have more than one meaning. They can have the same meaning as one or more other suffixes. Unlike prefixes, however, suffixes can also change the part of speech of a word root. For example, adding the suffix *-ness* to *quick* (an adjective) makes it into *quickness* (a noun). Adding *-ly* to *quick* makes *quickly* (an adverb).

Learning suffixes and how they change a root can help build your vocabulary. The following chart shows a sample of common suffixes. As you look at it, try to think of other words to which each suffix might be added.

Suffixes			
Categories	Suffixes	Words	Meanings
Suffixes that mean "one who does [something]"	-er, -or	worker sailor	one who works one who sails
	-ee, -eer	employee profiteer	one who is employed one who profits
	-ist	pianist chemist	one who plays the piano one who works at chemistry
	-ian	physician	one who practices medicine (once called "physic")
Suffixes that mean "full of"	-ful	joyful wonderful	full of joy full of wonder
	-ous	furious courageous	full of fury (anger) full of courage
Suffixes that mean "in the manner of" or "having to do with"	-ly	happily secretly	in the manner of being happy in the manner of a secret
	-y	windy icy	having to do with wind having to do with ice
	-al	musical formal	having to do with music having to do with form

When suffixes are added to words, the spelling of the word may change. For example, when *-ous* is added to *fury*, the *y* in *fury* is changed to *i* to make the word *furious*. See pages 684–686 to learn more about the spelling of words that have suffixes added to them.

Exercise 3

Write a word containing each root listed below. Try to use a word that is not used in the word roots chart. Then write a definition of each word. Check your dictionary if necessary.

1. bio
2. dent
3. flec or flex
4. tele

Exercise 4

Write a word to fit each of the definitions below. Each word should have a prefix or a suffix or both. Underline the suffixes and prefixes in the words. Use the charts in this lesson and a dictionary for help.

1. full of beauty
2. to behave badly
3. to fail to function correctly
4. below the earth
5. one who is a specialist in mathematics
6. a note written at the end of a letter, after the main part of the letter is complete (often abbreviated)
7. not able to be measured
8. in the manner of being not perfect
9. to live or exist together at the same time and in the same place
10. in the manner of being not happy

WORDWORKS

WEIRD OLD WORDS

If someone called you a popinjay, would you be pleased? Do you like to show off a little when you know you look good? A popinjay is a vain, strutting person. The word is old-fashioned and not used much today, but the type of personality it describes isn't old-fashioned at all.

Words come and go in any language. If a word has disappeared from use, some dictionaries label it obsolete. An example of an obsolete word is an older definition of *popinjay*: a "parrot." No one today uses *popinjay* instead of *parrot*. So this meaning for the word is obsolete.

Many words have disappeared from English. Some vanish completely: *egal* once

meant "equal," and a *prest* was money one person was forced to lend another. Neither word is used now. Other obsolete words leave traces. For example, a horse that

could be hired out for riding was called a hackney or hack. This meaning of *hack* is now obsolete, but modern English does have a related word. Taxis are sometimes called hacks. It's easy to trace this connection, since people hire taxis today, not riding horses, when they want to get around town.

The next time you pick up your dictionary, keep in mind that it's a work in progress.

Challenge

Words vanish, and one reason may be that they aren't really needed to do the job. List a synonym for each of these obsolete words: joyance, impressure, argument (meaning an outward sign).



ACTIVITY

Gone but Not Forgotten

Think of a modern word related to each of the old words below. The definitions in parentheses should give you a clue or two. A college dictionary will also help.

1. grue (to shiver)
2. gruel (to exhaust)
3. lorn (forsaken, abandoned)
4. yelk (yellow)

23.4

Synonyms and Antonyms

You want your writing to be as clear as you can make it. How can you be sure you have written just the right word to express exactly what you mean? Becoming familiar with synonyms and antonyms—and knowing how to locate them—can help you in your writing. At the same time, you can increase your vocabulary.

Synonyms

Partly because of the borrowings from other languages, English speakers can choose from many words to express the same idea. These

words that have the same, or nearly the same, meanings are called **synonyms**.

The important thing to remember is that synonyms rarely mean *exactly* the same thing. When searching for just the right word, the best place to find synonyms is in a thesaurus. (See pages 661–662 for information on how to use a thesaurus.) To use the right word, not *almost* the right word, check your dictionary for the definitions of synonyms, and notice the usage examples given, or refer to a book of usage.

For example, suppose you're writing about someone who spoke before a group. You look up synonyms for the word *speech* and find *address* and *oration*. *Speech* is a more general choice than

address and *oration*. A speech may or may not be formal. An address is a prepared formal speech. An oration is even more formal and is always given at a special occasion. For example, you may have read Abraham Lincoln's Gettysburg Address. Before Lincoln gave that famous address, another speaker gave a two-hour oration.

Knowing synonyms also helps make your writing more interesting. Writing that uses tired, colorless clichés—no matter how precise—is almost always boring. Use your knowledge of synonyms to substitute lively verbs and adjectives for lifeless, dried-out words.



fast
rapid
quick
fleet
speedy
swift

Antonyms

Antonyms are words with opposite or nearly opposite meanings. The easiest way to form antonyms is by adding a prefix meaning “not.” *Un-*, *il-*, *dis-*, *in-*, and *non-* are all prefixes that reverse the meaning of a root. They form antonyms, such as untrue, illegible, disbelief, insufficient, and nonfat. Sometimes an antonym can be made by changing the suffix. For example, cheerful and cheerless are antonyms.



fast



slow

As with synonyms, the important thing to keep in mind when choosing an antonym is finding exactly the right word. You need to check your dictionary to make sure you are using the right word for your context. When making an antonym by adding a prefix, make sure you check the dictionary. Be sure you are using the right prefix.

Exercise 5

For each of the following words, write two synonyms. Then write a sentence using one of the synonyms in each group. Use your dictionary and thesaurus as needed.

1. difficulty
2. nice
3. confusion
4. idea
5. slow (adjective)

Exercise 6

Replace the underlined word or words in each of the following sentences with an antonym. Use a thesaurus and a dictionary if you wish.

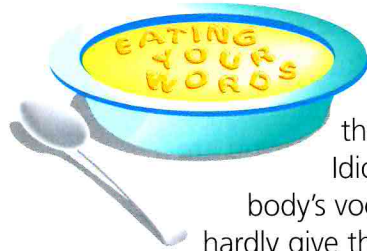
1. Jeremy's good health seems to be changing.
2. Andrea looks especially pale tonight.
3. That was the most difficult test I've ever taken.
4. Jake closed his eyes and saw the man who had been chasing him for so many days.
5. This fruit is so dried out I can't eat it.

WORDWORKS

EATING YOUR WORDS— A GREAT DIET?

Can you ever gain weight from eating your words? As a matter of fact, people don't generally sit down to a meal of their words. That's because they know that the expression *eat your words* really means "to take back something you've said." It's an idiom.

Let's look at some idioms and pull them apart. If you have decided *to put up with* something, where do you put it? If you *go back on* a promise, where have you gone? The point is, you can't understand an idiom just by putting together the meanings of the parts.



Idioms are a pretty big part of every-

body's vocabulary. Some idioms are so ordinary that we hardly give them a thought—such as *to put over* (a trick or a joke), or *to come down with* (a sickness). Others add color to language. For example, you might keep a secret *up your sleeve* or *under your hat*.

Idioms arise in various ways. Some are translations from other languages. Many more probably started out having a word-for-word meaning. Later, people changed the meaning to include other situations. For example, at one time *to break the ice* only meant "to cut through river ice in the winter to make a path for ships and boats." Later the phrase's meaning extended to the process of starting a conversation.

Challenge

English has many idioms that contain the names of animals. How many idioms can you think of that use the names of the following animals?

cat duck crow bird

ACTIVITY

Idio-Matic

How many idioms do you know? Test your idiom vocabulary. Match the following idioms with their meanings.

- | | |
|--------------------|----------------|
| 1. in the pink | a. gloomy |
| 2. draw the line | b. get angry |
| 3. in the dumps | c. healthy |
| 4. a good egg | d. set a limit |
| 5. hit the ceiling | e. nice person |

23.5

Homographs and Homophones

If you're like most people, you may have to think for a minute about whether to write *principal* or *principle* when you're talking about the head of your school. Or you might write *there* in your essay when you mean *their*. When someone points out your mistake, you think, "I knew that!" Some words sound alike but are spelled differently. Others are spelled the same but have different meanings.

Homographs

Words that are spelled alike but have different meanings and sometimes different pronunciations are called homographs. The root *homo* means "same," and *graph* means "write" or "writing." *Homograph*, therefore, means "written the same" (in other words, spelled alike).

Fly and *fly* are homographs. You can swat a fly or fly a plane. Although the two words are spelled alike, they have different meanings. The following chart shows some common homographs used in sample sentences. See if you can tell how the homographs in each group differ in meaning.

Homographs

Ed finished the test with one *minute* left before the bell.
To build very small model airplanes, one must enjoy *minute* details.

It's difficult to *row* a canoe upstream.
We sat in the third *row* of seats in the balcony.
We had a terrific *row* yesterday, but today we're getting along fine.

I hope I pick the winning *number*.
This snow is making my feet *number* by the minute.

Abby tried to *console* her little sister when their cat died.
The television *console* has speakers built into it.

Don't let that *wound* on your arm get infected.
Jim *wound* the rope around the tree branch.

Homophones

Homophones are words that sound alike but are spelled differently and have different meanings. *Write* and *right* are homophones. The chart below shows some common homophones with their spellings and meanings.

Homophones			
Words	Meanings	Words	Meanings
sight	act of seeing or ability to see	scent	an odor
site	a location	cent	one one-hundredth of a dollar
cite	to quote an authority	sent	past tense of <i>send</i>
read	the act of reading	bore	to tire out with dullness
reed	the stalk of a tall grass	boar	a male pig
four	the number following three	main	most important
fore	located at the front	mane	long hair on an animal's neck
mail	items delivered by lettercarrier	blue	the color of a clear sky
male	the sex opposite the female	blew	past tense of <i>blow</i>
real	actual, not artificial	would	past tense of <i>will</i>
reel	spool on which something is wound	wood	hard material that makes up a tree

Exercise 7

Write the homophone from the parentheses that best completes each of the following sentences. Use a dictionary for help if necessary.

- Jackie tried to (real, reel) in the fish.
- The lion is the (main, mane) attraction at the zoo.
- Chiyo thought that the speech was a (boar, bore).
- This is the (cite, sight, site) on which the museum will be built.
- What is that strange (scent, cent, sent) in the air?
- A wild (bore, boar) can be dangerous if it attacks.
- Sol (sighted, sited, cited) a thesaurus as his source.
- I (scent, cent, sent) the letter on Tuesday.

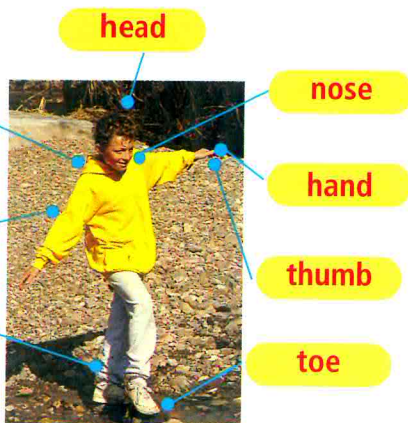
WORDWORKS

WHEN IS A NOUN NOT A NOUN?

The labels on the figure below are nouns that name body parts. English lets you put these same words into action as verbs. Here's how—from head to toe.

You can *head* a committee, *eye* a bargain, or *nose* a car into a parking space. You can *shoulder* a burden, *elbow* your way through a crowd, *hand* over the key, *knuckle* down to work, *thumb* a ride, *back* into a room, *foot* the bill, and *toe* the mark.

For hundreds of years, speakers of English have used these nouns and many others as verbs. Some words shifted in the other direction, from verb to noun. Today you can *walk* on a *walk*, *park* in a *park*, and *pitch* a wild *pitch*. Some shifts involve pronunciation. Notice which syllable you accent:



Will you *perMIT* me to drive?

Yes, when you get a *PERmit*.

Does your garden *proDUCE* carrots?

No, I buy *PROduce* at the market.

Still another shift involves nouns that became adjectives, as in the following: Sara unlocked the *steel* door. Tom wore a *straw* hat. Marty made *onion* soup.

So, when is a noun not a noun?

When it's used as a verb or an adjective. The only way to identify a word's part of speech is to see it in a sentence.

ACTIVITY

Double Duty

Use these clues to identify some words that have two functions.

- noun:** a very young person
verb: to pamper
- verb:** to walk with regular steps
noun: music with a steady beat
- verb:** throw pictures onto a screen
noun: special work in science class

Challenge

Suppose you got this written message: Ship sails today. What does it mean? Put the before ship; then put the before sails. Why can this sentence have two different meanings?

23.6 Spelling Rules

You may not know it, but you may have something in common with Noah Webster (of dictionary fame). He wanted to simplify the spelling of American English. He convinced people that the British *gaol* should be spelled *jail* in American English. He also got rid of the *k* in the British *musick* and *publick*. Webster especially disliked silent letters. He tried to get people to accept *frend* (*friend*), *hed* (*head*), and *bilt* (*built*), among other spellings.

However, most people didn't like Webster's spelling reforms, so today we have a system of spelling filled with rules and exceptions and words spelled nothing like the way they are pronounced. Using a dictionary to check spelling is the best way to avoid mistakes.

Common Spelling Rules

You won't always have a dictionary handy to check your spelling. Memorizing some of the following spelling rules will help you spell most words correctly even when you don't have a dictionary.

Spelling *ie* and *ei* The letter combinations *ie* and *ei* are found in many English words, and they often cause confusion in spelling. The problem is that two words might have the same vowel sound—long *e*—but one word might be spelled *ie* while the other is spelled *ei*. You can master the spelling of these words by memorizing the rhyme below.

Rule	Examples
Put <i>i</i> before <i>e</i> except after <i>c</i> or when sounded like <i>a</i> , as in <i>neighbor</i> and <i>weigh</i> .	achieve, retrieve, grieve deceive, receipt, ceiling eighty, veil, freight
Exceptions: species, weird, either, neither, seize, leisure, protein, height	

Spelling Unstressed Vowels

The unstressed vowel sound in many English words can cause spelling problems. Dictionary pronunciation guides represent this unstressed vowel sound by a special symbol called a schwa (ə). Listen to the unstressed vowel sound in the word *about*. This vowel sound can be spelled in more than a dozen ways—with any vowel letter and with several combinations of vowel letters—but it always sounds the same. Here are a few examples. Pronounce each word, and listen for the sound represented by the underlined letter or letters:

canvas, angel, pencil, ridicule, carton, medium, enormous, ancient, pigeon, courageous.

Notice that you hear the schwa sound only in unstressed syllables.

As always, the best way to make sure of your spelling is to check a dictionary. When you can't use a dictionary, you might be able to figure out the spelling of the unstressed vowel sound. Think of a related word in which the vowel is stressed. The word *informative*, for example, has an unstressed vowel, which happens to be spelled *a*. If you don't know that, you might think of the related word *information*, in which the vowel is stressed and sounds like an *a*. The chart below shows some additional examples of how to use this strategy.

Spelling Unstressed Vowels

Unknown Word	Related Word	Word Spelled Correctly
popul_rize	popul <u>a</u> ri <u>ty</u>	popularize
plur_l	plur <u>a</u> li <u>ty</u>	plural
aut_mation	aut <u>o</u>	automation
infl_u_nce	infl <u>e</u> ntial	influence
not_ble	not <u>a</u> tion	notable
form_l	form <u>a</u> li <u>ty</u>	formal
practic_l	practic <u>a</u> li <u>ty</u>	practical
pol_r	pol <u>a</u> ri <u>ty</u>	polar
inhabit_nt	habit <u>a</u> tion	inhabitant
hospit_l	hospit <u>a</u> li <u>ty</u>	hospital

Adding Prefixes Adding prefixes to words usually doesn't present any spelling problems. Keep the spelling of the word, and attach the prefix. If the prefix ends in the same letter as the first letter of the word, keep both letters. Some common examples include the following:

co- + pilot = copilot	dis- + service = disservice
il- + legal = illegal	co- + operate = cooperate

Suffixes and the Final y Adding suffixes to words that end in *y* can often cause spelling problems. The following rules will help you:

- When a word ends in a consonant + *y*, change the *y* to *i*.
 imply + -es = implies reply + -ed = replied
 pry + -ed = pried apply + -es = applies
- If the suffix begins with an *i*, keep the *y*.
 supply + -ing = supplying fly + -ing = flying
- When a word ends in a vowel + *y*, keep the *y*.
 toy + -ing = toying stay + -ing = staying
 delay + -ed = delayed prey + -ed = preyed

Doubling the Final Consonant When adding suffixes to words that end in a consonant, you sometimes double the final consonant. In other cases you simply add the suffix without doubling the consonant.

Double the final consonant when a word ends in a single consonant following one vowel and

- the word is one syllable
 strip + -ed = stripped sad + -er = sadder
 shop + -ing = shopping ship + -ed = shipped
 war + -ing = warring tap + -ed = tapped
- the word has an accent on the last syllable, and the accent remains there after the suffix is added
 occur + -ence = occurrence repel + -ing = repelling
 forget + -able = forgettable commit + -ed = committed
 upset + -ing = upsetting refer + -ed = referred

Do not double the final consonant when

- the accent is not on the last syllable

flavor + -ing = flavoring

envelop + -ment = envelopment

remember + -ing = remembering

- the accent moves when the suffix is added

refer + -ence = reference

fatal + -ity = fatality

- two vowels come before the final consonant

remain + -ed = remained

floor + -ing = flooring

lead + -ing = leading

train + -ed = trained

- the suffix begins with a consonant

master + -ful = masterful

dark + -ness = darkness

tear + -less = tearless

leader + -ship = leadership

loyal + -ty = loyalty

flat + -ly = flatly

great + -ness = greatness

- the word ends in two consonants

bring + -ing = bringing

stick + -ing = sticking

inspect + -or = inspector

hunt + -ed = hunted

attach + -ment = attachment

SPECIAL CASE: When a word ends in *ll*, and the suffix *-ly* is added, drop one *l*.

dull + -ly = dully

full + -ly = fully

Suffixes and the Silent e Noah Webster did his best to get rid of the silent letter *e* in American-English spelling. He succeeded in changing *axe* to *ax*. However, he lost the battle to change *give* to *giv*, and *medicine* to *medicin*. He also failed to change the spellings of other words ending in silent *e*. The public was not willing to give up spellings with which they were familiar.

The silent *e* can still cause spelling problems, especially when you add a suffix to a word that ends in a silent *e*. Sometimes the silent *e* is dropped when adding a suffix, and sometimes it is kept. The following chart shows the rules for adding suffixes to words that end in silent *e*.

Adding Suffixes to Words That End in Silent *e*

Rule

When adding a suffix that begins with a consonant to a word that ends in silent *e*, keep the *e*.

Common exceptions

When adding *-ly* to a word that ends in */* plus a silent *e*, always drop the *e*.

When adding *y* or a suffix that begins with a vowel to a word that ends in a silent *e*, usually drop the *e*.

Common exceptions

When adding a suffix that begins with *a* or *o* to a word that ends in *ce* or *ge*, keep the *e* so the word will retain the soft *c* or *g* sound.

When adding a suffix that begins with a vowel to a word that ends in *ee* or *oe*, keep the *e*.

Examples

state + *-ment* = statement
complete + *-ly* = completely

awe + *-ful* = awful
judge + *-ment* = judgment

able + *-ly* = ably
sensible + *-ly* = sensibly
remarkable + *-ly* = remarkably

state + *-ing* = stating
nose + *-y* = nosy

lime + *-ade* = limeade
mile + *-age* = mileage

exchange + *-able* = exchangeable
courage + *-ous* = courageous

disagree + *-able* = disagreeable
shoe + *-ing* = shoeing
flee + *-ing* = fleeing

Forming Compound Words The rule for spelling compound words is very simple. In most cases, just put the two words together. Seeing two consonants together, such as *hh*, *kk*, or *kb*, may seem odd. The English language does not have many words with these combinations. However, the rule is to keep the original spelling of both words, no matter how the words begin or end.

foot + lights = footlights
busy + body = busybody
book + bag = bookbag

fish + hook = fishhook
book + keeper = bookkeeper
light + house = lighthouse

Some compound words, such as *hand-me-down* and *forty-niners*, are hyphenated. Others, like *honey bear* (but not *honeybee*), are spelled as two words. Use a dictionary when in doubt.

Forming Plurals The way plurals are formed in English is generally simple, and the rules are fairly easy to remember. The most common way to form plurals is to add *-s* or *-es*. The following chart shows the basic rules, their exceptions, and example words.

Rules for Plurals		
If the Noun Ends in	Then Generally	Examples
<i>ch</i> , <i>s</i> , <i>sh</i> , <i>x</i> , or <i>z</i>	add <i>-es</i>	witch → witches toss → tosses flash → flashes ax → axes buzz → buzzes
a consonant + <i>y</i>	change <i>y</i> to <i>i</i> and add <i>-es</i>	story → stories folly → follies
a vowel + <i>y</i>	add <i>-s</i>	play → plays jockey → jockeys
a vowel + <i>o</i>	add <i>-s</i>	studio → studios rodeo → rodeos
a consonant + <i>o</i>	generally add <i>-s</i>	piano → pianos photo → photos
	Common exceptions but sometimes add <i>-es</i>	hero → heroes veto → vetoes echo → echoes
<i>f</i> or <i>ff</i>	add <i>-s</i>	staff → staffs chief → chiefs
	Common exceptions change <i>f</i> to <i>v</i> and add <i>-es</i>	thief → thieves leaf → leaves
<i>lf</i>	change <i>f</i> to <i>v</i> and add <i>-es</i>	self → selves half → halves
<i>fe</i>	change <i>f</i> to <i>v</i> and add <i>-s</i>	life → lives knife → knives

WORDWORKS

VOWEL SWITCH

Spelling in English can be a real mystery. Why should the first vowel sounds in *pleasant* and *please* be spelled the same even though they are pronounced differently? Why not spell the sound in *pleasant* with just an *e*, as in *pen* and *red*?

Here's the scoop: Sometime between 1400 and 1600 the pronunciation of certain vowels underwent a change. The vowel in *please* was pronounced like the *e* in *pen*, only it was longer. This sound gradually shifted to a long *a* sound as in *pane*. Meanwhile, the long *a* had begun to take on the *e* sound as in *feed*, while the long vowel *e* had begun to take on the long *i* sound as in *ride*. Similar changes occurred in the other long vowels. These pronunciation changes are called the Great Vowel Shift.

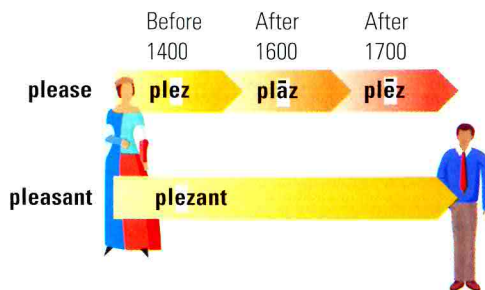
Meanwhile, the short vowels (as in *pleasant*) did not change. Because spelling didn't always keep up with pronunciation changes, the words *please* and *pleasant* were still spelled with the same vowel even though

please was now pronounced like *plays*. Later, some words like *please* changed again. By about 1700 most people pronounced *please* the way you pronounce it today.

So the next time you're puzzled by English spelling, remember that the way a word is spelled sometimes holds a clue to its history.

Challenge

Some spellings have changed to reflect pronunciation changes. One example appears several times on this page. Can you find it?



ACTIVITY

Shifty Vowels

Which of the following word pairs demonstrate the Great Vowel Shift?

1. crime, criminal
2. mouse, mice
3. breathe, breath
4. serene, serenity
5. die, death

23.7

Becoming a Better Speller

Spelling the *really* difficult words—such as *pusillanimous* (meaning “cowardly”)—is usually not too much of a problem. The reason is that when you use such words (which is not often), you will probably look them up in the dictionary.

What about the less difficult but more common words that you use often? Following is a list of such words. See if any of them are words you have had trouble spelling. What words would you add to the list?

Words Often Misspelled

absence	curiosity	incidentally	pneumonia
accidentally	develop	incredibly	privilege
accommodate	definite	jewelry	pronunciation
achievement	descend	laboratory	receipt
adviser	discipline	leisure	recognize
alcohol	disease	library	recommend
all right	dissatisfied	license	restaurant
analyze	eligible	maintenance	rhythm
answer	embarrass	mischievous	ridiculous
attendant	environment	misspell	schedule
ballet	essential	molasses	separate
beautiful	February	muscle	sincerely
beginning	fulfill	necessary	souvenir
beneficial	foreign	neighborhood	succeed
business	forty	niece	technology
cafeteria	funeral	noticeable	theory
canceled	genius	nuisance	tomorrow
canoe	government	occasion	traffic
cemetery	grammar	original	truly
changeable	guarantee	pageant	unanimous
choir	height	parallel	usually
colonel	humorous	permanent	vacuum
commercial	hygiene	physical	variety
convenient	imaginary	physician	various
courageous	immediate	picnic	Wednesday

Spelling and Misspelling

Do you have trouble remembering the spellings of common words? How many *c*'s and *m*'s are in *recommend* and *accommodate*? Is it *separate* or *seperate*? Words like these cause many people problems. The following techniques will help you learn to spell troublesome words.

- Use rhymes (such as “*i* before *e* except after *c* . . .”) and memory tricks (such as “an *r* separates two *a*'s”).
- Pay special attention to words likely to be confused with other words. Below are some examples. You can find more in the list of homophones on page 680.

Words Often Confused	
accept except	Marianne will not <i>accept</i> the nomination for class president. All the students <i>except</i> Barry were on time.
affect effect	This cold weather can <i>affect</i> my sinuses. The space program could have an <i>effect</i> on future generations.
formally formerly	The new president was <i>formally</i> introduced to the student body. Ananda <i>formerly</i> lived in southern California.
its it's	Since <i>its</i> walls collapsed, the mine entrance has been closed. <i>It's</i> been a long time since I saw Winston so happy.
stationary stationery	The radio transmitting station is mobile, not <i>stationary</i> . Her <i>stationery</i> is decorated with tiny blue flowers.
thorough through	They completed a <i>thorough</i> revision of the student handbook. <i>Through</i> the window we could see them coming up the path.
than then	The final draft of my story is much better <i>than</i> the first draft. What happened <i>then</i> ?
their there they're	What was the outcome of <i>their</i> first game? The address you are looking for is over <i>there</i> . The team members say <i>they're</i> happy with the new gym.
weather whether	I hope the <i>weather</i> stays nice for the picnic. I'm not sure <i>whether</i> it was luck or skill, but I made the team.

Exercise 9

Work with one or two other students. Choose three words from the list of Words Often Misspelled on page 691 of this lesson. Develop a memory aid that will help you spell each word. Share your completed memory aids with the class.

Exercise 10

Write the word in the parentheses that correctly completes each sentence.

1. The school decided to change the name of (its, it's) football team.
2. One of the test questions asked for an (effect, affect) of the Civil War.
3. Pete (formerly, formally) played on a soccer team at his old school.
4. If you leave your books (their, there, they're), they may get lost.
5. The cat pushed (its, it's) way through the swinging door.
6. Use your best (stationery, stationary) for the thank-you notes.
7. Have you decided what dress (your, you're) going to wear to the party?
8. The detective was very (thorough, through) in his investigation of the crime.
9. We would like to know (whether, weather) it will rain or be sunny on the day of our field trip.
10. The two dogs need to have (their, there, they're) coats brushed after being out all day.
11. I've never been (formerly, formally) introduced to the new counselor.
12. The three girls said that (their, there, they're) going to go swimming.

UNIT
24

Study Skills

Lesson 24.1	Using Book Features	695
Lesson 24.2	Skimming, Scanning, and Careful Reading	697
Lesson 24.3	Summarizing	699
Lesson 24.4	Making Study Plans	701
Lesson 24.5	The SQ3R Method	703
Lesson 24.6	Gathering and Organizing Information	706
Lesson 24.7	Graphic Information	709
Lesson 24.8	Memorizing	713



24.1

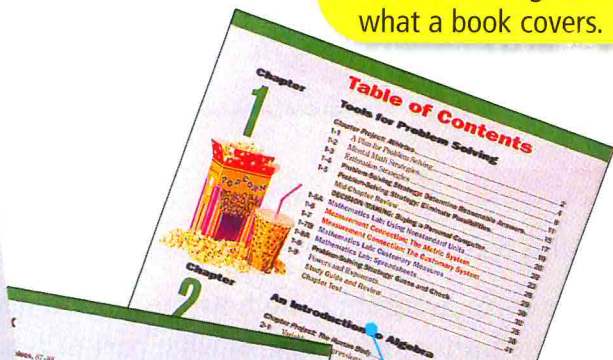
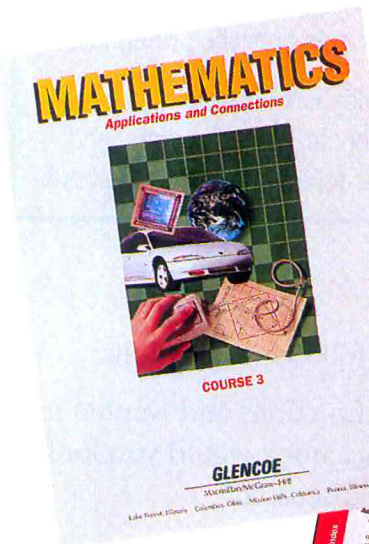
Using Book Features

Imagine you're writing a research paper on the Civil War. You've narrowed your topic to the Battle of Gettysburg, focusing on Pickett's Charge, a key event in the three-day battle. You find that the library has many books on the Battle of Gettysburg—but you certainly can't read them all.

How do you decide which books will be the most useful? Looking at certain pages in the front or back of a book will help you narrow your choice.

You can use the pages shown below—title page, table of contents, and index—to help you find the information you need. The title page and table of contents appear in the front, before the main text of the book. You'll find the index in the back.

The **title page** tells you the author's name and the complete title, including any subtitle. A subtitle often gives clues about what a book covers.



The **index** is an alphabetical listing of important people, places, or terms discussed in the book, with page numbers for each entry.

The **table of contents** lists the titles and page numbers of chapters. Chapter titles tell you the main topics in the book.

Study Skills

Many books include other informative sections separate from the main text. The copyright page follows the title page. It tells you the year in which the book was published. Also in the front of a book, you may find a foreword, a preface, or an introduction. In the back of some books are glossaries for definitions and pronunciations of unusual words. The chart below shows you how to use some of these parts of a book.

Using a Book Effectively	
Questions	Where to Look for the Answer
Who is the author of this book?	The title page contains the author's name and the complete title.
Will this book contain information about my topic?	The table of contents identifies the main topics.
Will this book contain recent information about my topic?	The copyright page tells when a book was published or updated.
Will I find the people, places, and events I'm researching in this book?	The index is an alphabetical listing of people, places, events, and other topics covered in the book.

Exercise 1

Use this textbook to answer all but the first of the following questions:

1. Suppose you were studying how the human heart functions and wanted to find a definition of *atrium*. In what part of a science book would you look?
2. On what page or pages of this book are synonyms discussed?
3. In what year was this book published?
4. What is the title of Unit 10?
5. Does this book discuss homographs and, if so, on what page(s)?

24.2

Skimming, Scanning, and Careful Reading

What if you needed information about the structure of the human heart? You would probably read a book about your topic. You can use a number of strategies as you read for information. Using the right reading strategy for a particular purpose can save valuable time.

Skimming

When you want to know if a book covers the information you need, skimming is a good technique. Skimming can be very helpful in your research or when previewing or reviewing texts. To skim a text, you glance over the text to find the main ideas. You look at the chapter titles, words in italic or boldface type, and at the topic sentence of each paragraph. Without taking too much time, you can grasp the most important ideas in a given chapter. For instance, the notes below were made while a reader was skimming a detailed chapter on the makeup of the human heart.

Heart has four chambers—right and left atria, right and left ventricles.

Right ventricle pumps blood from body through lungs.

Left ventricle pumps blood from lungs through body.

Blood from the body enters right *atrium*, through two veins, called *superior vena cava* and *inferior vena cava*.

Blood carrying oxygen flows from lungs to left *atrium* through *pulmonary veins*.

Scanning

When you are searching for specific information, you can use a strategy called scanning. Scanning is glancing from point to point quickly but thoroughly. While scanning, you move your eyes over a page, looking for key words. When you locate the information you want, you read carefully for specific details.

Careful Reading

Careful reading allows you to understand material thoroughly and to monitor your comprehension. When you use this technique, you read the text slowly. You pay close attention to all details to make sure you clearly understand the information presented. Read carefully when learning material for the first time, such as when studying a new chapter in a science textbook. Pay attention to how well you have understood what you've read. Reread, if a passage is unclear, and jot down questions or comments for later review.

You also practice careful reading when preparing to explain material to someone else. Suppose you were going to present an oral report on the human circulatory system. Any book you find explaining the circulatory system would probably include medical information unfamiliar to you. The only way to fully understand the content is to read slowly and carefully. Read a passage several times until you fully understand it. If you understand what you will be speaking or writing about, you will be able to explain it better to your audience. Keep a dictionary nearby so that you can look up any unfamiliar words.

Exercise 2

Decide which reading strategy—skimming, scanning, or careful reading—should be used in each of the following situations. Explain each decision.

1. You find a library book on a topic that interests you. You wonder whether the book is worth reading.
2. You've been asked to read the first half of a chapter in your science textbook before tomorrow's class.
3. You need information about the causes of the American Revolution for a report you are writing. You need to decide which of the ten books on the American Revolution you've found would best fit your needs.

24.3

Summarizing

Explaining the main ideas of something in your own words is called summarizing. Every time you tell a friend about a movie you saw or a book you read, you are summarizing. You might summarize yesterday's science lesson to a friend who was sick that day. You also might find that explaining or summarizing something for someone else helps you understand it better.

When to Summarize

Though you often make informal summaries, there are also times when you need to make formal ones. When researching material for a report, for instance, you need to summarize important ideas. You also might summarize information you hear in a lecture, speech, or film presented in class. After you take notes on what you read or hear, you can summarize the main ideas for reference or review.

You can also use summarizing as a study tool when reading or reviewing material in your text. Writing passages from a textbook in your own words can help you better understand and remember the material. The following chart shows when and why you might summarize material.

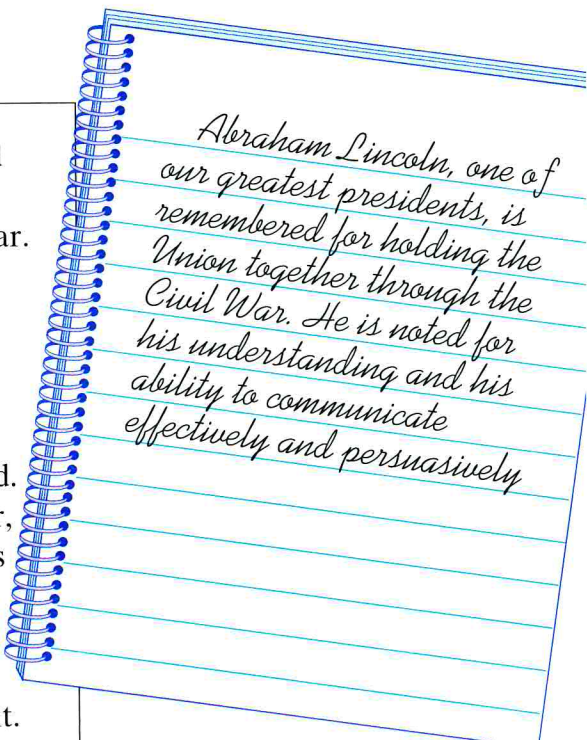
When to Summarize	
Situation	Purpose
Preparing a written or oral research report	To include important ideas from your reading in your report
Reading textbook material	To better understand and remember ideas from the textbook
Listening to lectures or speeches	To write a report or prepare for a test on ideas from the lecture or speech
Viewing a film or video documentary	To write a report or prepare for a test on ideas from the film

How to Summarize

When you write a summary, put the ideas in your own words. Concentrate on the main ideas, leaving out examples and supporting details. Look below at the example of an original text and one student's summary of it. Notice what details are left out and how the student's language differs from the original.

Abraham Lincoln (1809–1865), considered one of our greatest presidents, preserved the Union at a time of unrest during the Civil War. With the United States facing disintegration, he showed that a democratic form of government can endure.

One of Lincoln's most important qualities was his understanding. Lincoln realized that the Union and democracy had to be preserved. Lincoln was also a remarkable communicator, able to clearly and persuasively express ideas and beliefs in speech and writing. His most famous speech was the brief but powerful Gettysburg Address. His first and second inaugural addresses were also very significant.



Abraham Lincoln, one of our greatest presidents, is remembered for holding the Union together through the Civil War. He is noted for his understanding and his ability to communicate effectively and persuasively.

Exercise 3

With a partner, choose a film or television documentary, a lesson or chapter from a book, or an encyclopedia article about a subject that interests you. Read or discuss the material, and then work together to write a summary. Identify the main ideas, and put them in your own words. Decide whether to use any direct quotes. Share your completed summary with the class.

24.4

Making Study Plans

If you think about ways to study effectively and then take some time to learn good study skills, you can improve your school performance and increase your free time. Think about studying well, not just about spending time studying.

Setting Goals

A good study plan begins with goal setting. Review your assignments, and then set your goals for each class. Break down your assignments into short-term and long-term goals. Short-term goals can be completed in one study session; long-term goals, of course, will take more time. Break down your long-term goals into smaller tasks. Be realistic about what you can get done in each study session.

The chart below shows some short-term and long-term goals and how long-term goals can be broken down.

Setting Goals	
Short-Term Goals	<ol style="list-style-type: none">1. learning a short list of spelling or vocabulary words2. reading several pages in your textbook3. completing a math exercise for homework
Long-Term Goals	<ol style="list-style-type: none">1. completing a research report <i>short-term tasks</i><ul style="list-style-type: none">• find library materials• do prewriting• write rough draft• revise draft• prepare final report2. preparing for a unit test <i>short-term tasks</i><ul style="list-style-type: none">• read Chapter 22• read Chapter 23• review key terms

Effective Study Time

Once you've determined your goals, set a reasonable deadline for reaching each goal. Write the deadline in a study-plan calendar that includes your regular activities and assignments. When you schedule your study time, keep your deadlines and your other activities in mind. Don't schedule too many deadlines for the same day. Look at the following studying tips. What other tips could you add?

Tips on Studying

1. Study at the same time and in the same place each day. Also, keep your study tools, such as pencils, pens, notepads, and dictionaries, in the same place.
2. Take a short break after reaching each goal.
3. Begin study time with your most difficult assignment.
4. Focus on one assignment at a time.
5. Try a variety of study methods, such as reading, summarizing what you have read, developing your own graphic aids (like clusters), or discussing material with a study partner.

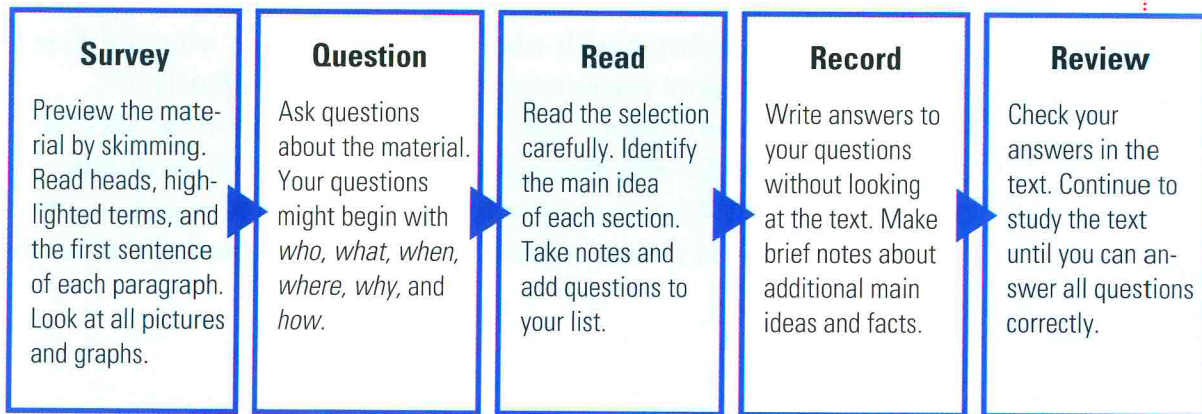
Exercise 4

Keep a "study log" for two weeks. Record the beginning and ending time of each study session, even if it's only fifteen minutes at lunch. Write down what you study each day, and comment on how effective your studying is. You may want to include observations on circumstances that affect your ability to study on a particular day. (For example: It was raining, so I was glad to be inside studying; I had a headache, so I had trouble concentrating.) At the end of the two weeks, take a good look at your study log. Identify the factors that contributed to your most effective use of study time.

24.5

The SQ3R Method

The SQ3R method can help make your study time more productive. SQ3R is an effective method for improving your ability to read and remember written information. SQ3R stands for the steps in the process: **s**urvey, **q**uestion, **r**ead, **r**ecord, and **r**eview. Using this method can help you study more efficiently and remember more of what you read. The diagram shows how the SQ3R method works.



The SQ3R method works with any subject. Practice the method, and make it a habit. Once you thoroughly learn the SQ3R method and use it regularly, you will

- remember more of what you read,
- better understand the material by developing specific questions about it, and
- be better prepared to participate in class.

Survey

The purpose of surveying, or previewing, written material is to get a general idea of what it is about. The main ideas are sometimes contained in section headings or subheadings. Read each heading and subheading, and skim all the material. (See page 697 for hints on skimming.) If the material does not include headings, skim each paragraph to find its topic sentence. It will often be the first sentence of the paragraph.

Sometimes important ideas in the text are shown in bold or italic print. Make sure you take note of these ideas. When previewing, also take note of all pictures, charts, graphs, and maps. Examine them to see how the graphic aids fit in with the text. Read the title and caption for each one.

Question

After you survey and before you read, prepare a list of questions you want to be able to answer after reading the material. Having a list of questions before you begin helps you focus on the important ideas. Use questions that begin with *who*, *what*, *when*, *where*, *why*, and *how*. For example, suppose you're reading a chapter on the Battle of Gettysburg for your history class. You might write questions such as these: Who were the opposing generals in the battle? When did the battle take place? What was the outcome? You might also look at any review questions at the end of each chapter or lesson and add those to your list.

Read

Once you have prepared your list of questions, you are ready to read the material carefully. (See page 698 for tips on careful reading.) As you read, look for answers to the questions on your list. Take brief notes about the main ideas. (See pages 706–707 for more information on taking notes.) For example, your notes might include “Battle of Gettysburg fought July 1–3, 1863. Confederate General Robert E. Lee; Union General George G. Meade. Turning point of Civil War.” Add more questions to your list as they arise during your reading. Make sure you thoroughly understand all the ideas. If the ideas are complicated and you are having difficulty, reread the material slowly to help clarify your understanding of important vocabulary concepts.

Record

When you complete your reading, write the answers to your questions without looking at the book or article. If there is a large amount of material, you may wish to stop and answer your questions after you finish reading each section. Answering the questions from your memory will test whether you have thoroughly learned the material. If you have difficulty answering the questions, reread the material. Then try

to answer the questions again without looking at the text. Make sure your questions apply to the material. If the material you're studying does not thoroughly answer the questions, revise your questions to fit the text.

Review

Check the answers to your questions against the material you've read. Did you answer them all correctly? If not, review the material to find the answers. Try rewriting some of the questions you missed, or write several new questions that cover the same material. Review the material again, and then answer the new questions. Check your answers against the material. If you miss some of these questions, go through the process again, rewriting questions and reviewing the material until you are able to correctly answer all questions. Save your review questions and answers. You can use them later to study or review for tests.

Exercise 5

Work with a small group of classmates. Each member should choose an event from American history, then find an encyclopedia article or a passage from a book about that event. Study your material using the SQ3R method. Allow each member to give a brief oral report to the group on the material studied. Group members may evaluate one another's reports and discuss how the SQ3R method helped them.

24.6

Gathering and Organizing Information

Can you remember the important ideas from a discussion you heard two weeks ago? Unless you took notes, you've probably forgotten what was said. Taking notes and organizing them helps clarify what you hear or read. It also helps you remember information. Well-written notes also come in handy when you're studying for a test or writing a report.

Taking Notes

Taking notes can be challenging, whether you are working from a lecture, a film or video shown in class, or from research material. You may find you are either trying to write down too much or not enough. Taking notes requires special skill.

The notes you take while listening are important for your later review. They'll help you understand and remember what you hear. The notes you take while reading will allow you to review the important ideas from a source. With good notes, you may not have to go back to a source to reread it.

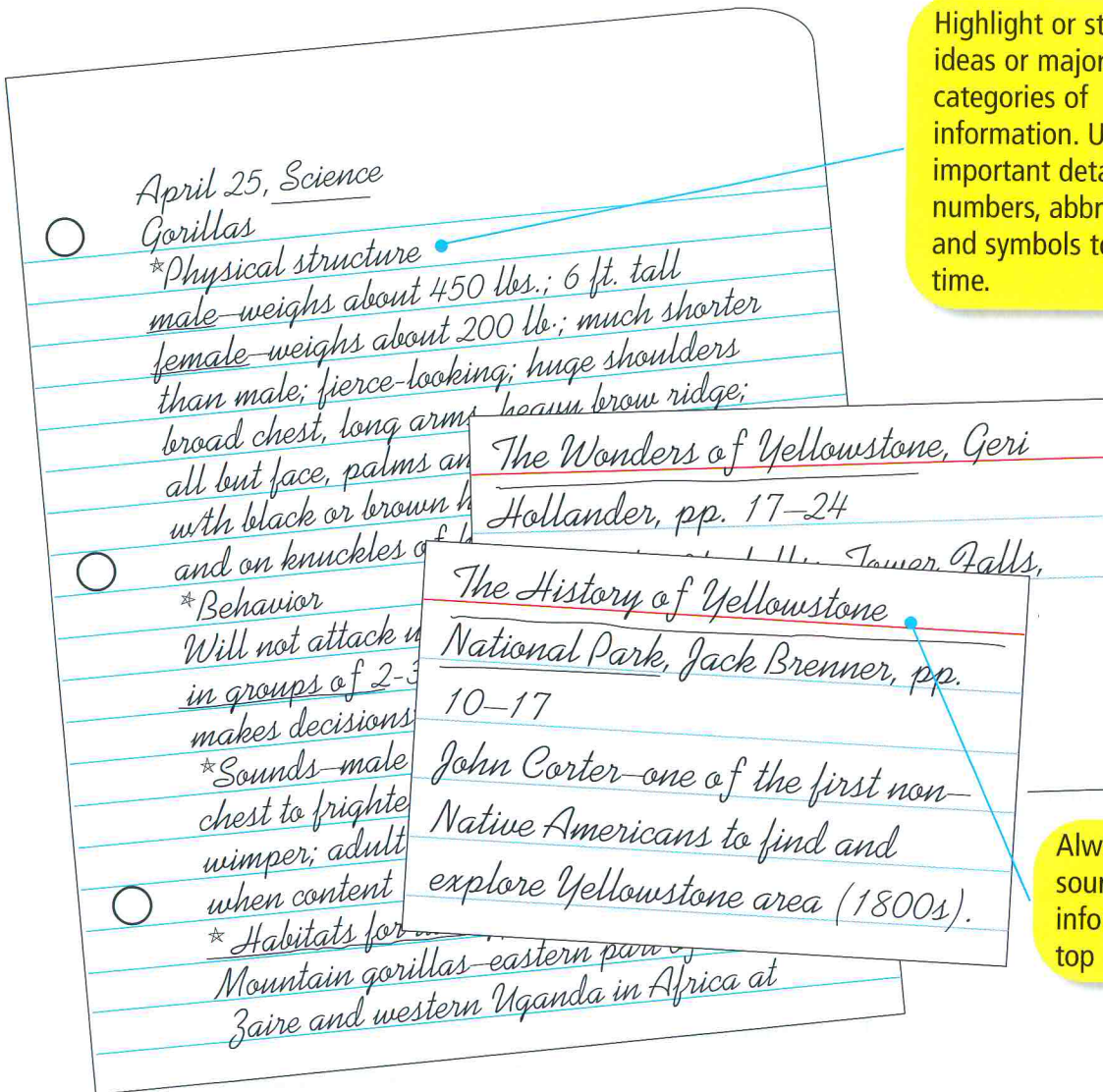
Tips for Taking Notes

While Listening

1. Take down only main ideas and key details.
2. Listen for transitions and signal words.
3. Use numerals, abbreviations, and symbols for speed, making sure that later you can understand what you have written.

While Doing Research

1. Take notes only on material that applies directly to your topic.
2. Use a card for each piece of information, and record the source of the information at the top of the card.
3. Summarize as much as possible.
4. Use direct quotations only for colorful language or something that's particularly well-phrased.



Highlight or star main ideas or major categories of information. Underline important details. Use numbers, abbreviations, and symbols to save time.

Always record the source of your information at the top of each card.

Outlining

Once you complete your research, put your note cards in order and prepare an outline. The order you use depends on the kind of paper you are writing. If you're writing a paper on historical events, you might use chronological order, or the order in which events happen. A science paper might be ordered by cause and effect.

Group together your note cards that cover similar topics. Each group will become a main topic. Within each group put similar cards into subgroups. These will become your subtopics.

As your outline develops, you may find that you need to do more research. You may also find that you do not need all the notes you have taken. Set aside any note cards that don't apply to your outline. Examine the sample outline below.

Use Roman numerals to number the main topics, or important ideas, of your paper.

Indent and use letters and numbers for subtopics and their divisions. Do not use subtopics or divisions unless you have at least two.

Yellowstone National Park

I. The History of Yellowstone

A. Earliest Explorers

1. John Colter
 - a. member of the earlier Lewis and Clark expedition
 - b. first non-Native American to see Yellowstone
 - c. visited in early 1800s

2. Jim Bridger

- a. famous "mountain man" and explorer
- b. visited the region about 1830

B. Washburn Expedition

1. confirmed earlier reports of natural wonders
2. worked to make area a national park

II. Yellowstone's Natural Beauty

Exercise 6

Working with a small group of classmates, look through a number of educational magazines. Choose an article that interests all of you. Have each member of the group read the article, take notes on it, and write a detailed outline. Then compare notes and outlines, discussing the differences.

24.7 Graphic Information

Imagine trying to use words alone to explain how a car engine works. A simple written description of a process may seem confusing or incomplete. However, a picture or diagram can make it much easier for people to understand how something works.

Tables and Graphs

Many books use graphic aids such as tables and graphs to present figures or other data that are hard to explain with words alone. Tables and graphs organize information and make it more understandable.

Tables Tables allow you to group facts or numbers into categories so that you can compare information easily. The left-hand column of a table lists a set of related items. Across the top of the table are column headings that describe the items in each column. With this arrangement, you can read a table horizontally or vertically, and you don't have to read all the information to find the piece you need. For example, in the table below, you can easily find the population growth of the five largest U.S. cities. Looking across the rows, you can see how a particular city's population increased or decreased over the years. Looking down the columns, you can compare the populations in the different years listed.

Population of Largest U.S. Cities

Rank	City	1950	1960	1970	1980	1990	2005
1	New York City	7,891,984	7,781,984	7,895,563	7,071,639	7,322,564	8,143,197
2	Los Angeles	1,970,358	2,479,015	2,811,801	2,966,850	3,485,537	3,844,829
3	Chicago	3,620,962	3,550,404	3,369,357	3,005,072	2,783,726	2,842,518
4	Houston	596,163	938,219	1,233,535	1,595,138	1,654,348	2,016,582
5	Philadelphia	2,071,605	2,002,512	1,949,996	1,688,210	1,585,577	1,463,281

Source: U.S. Bureau of the Census

The frequency of contact with a parent is shown by the colored bars. The height bar shows the percentage of people who chose a particular response.

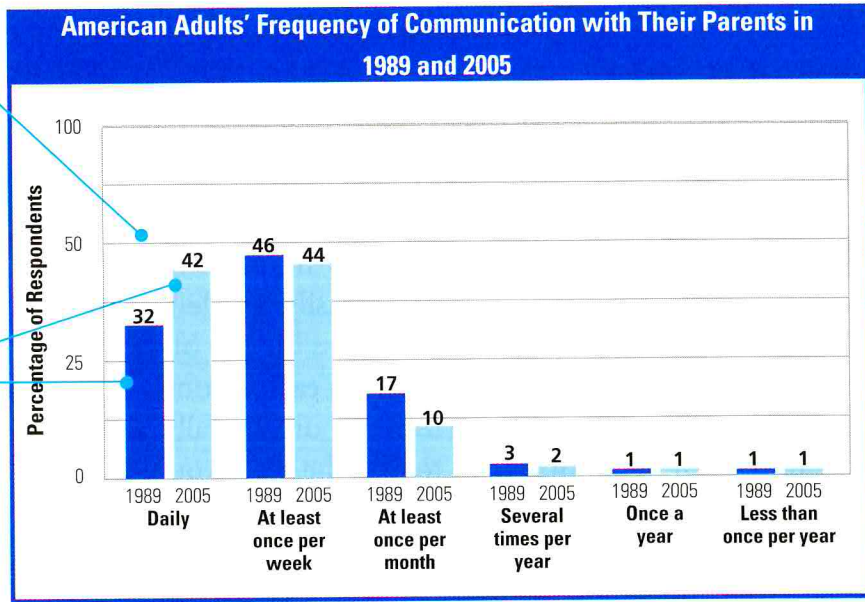
By comparing the height of the bars, you see that in 1989 and in 2005 most people reported having frequent contact with parents.

Americans' personal savings rates appear along the vertical axis. Horizontal lines make it easy to locate the amount for a given year.

Years are shown along the horizontal axis. Vertical lines on the graph make it easy to see where the year intersects the graph line.

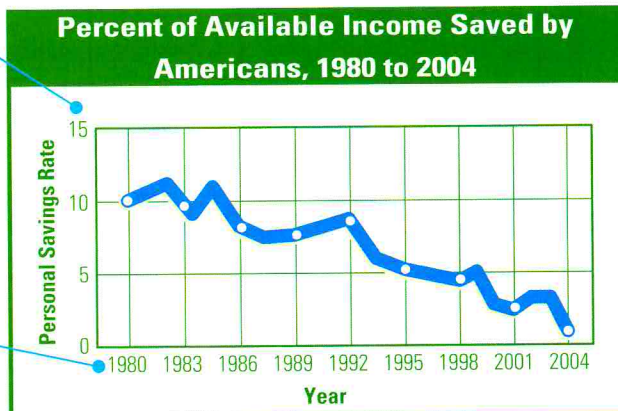
Study Skills

Bar Graphs In bar graphs, each quantity is shown as a bar. The length of the bar indicates the amount, or percentage, making it easy to visually compare the amounts. Bar graphs can have horizontal bars or vertical bars. Double bar graphs, such as the one below, compare two sets of data. Use the graph to compare how often American adults communicated with a parent in 1989 and 2005.



Source: Pew Research Center, 2006

Line Graphs Line graphs help the reader see at a glance changes in numbers or statistics. They also show the period of time in which these changes occur. This line graph shows Americans' saving habits from 1980 to 2004. The graph charts the percentage of available income that people saved. That percentage—the “personal savings rate”—is shown at the left-hand side, or vertical axis. The

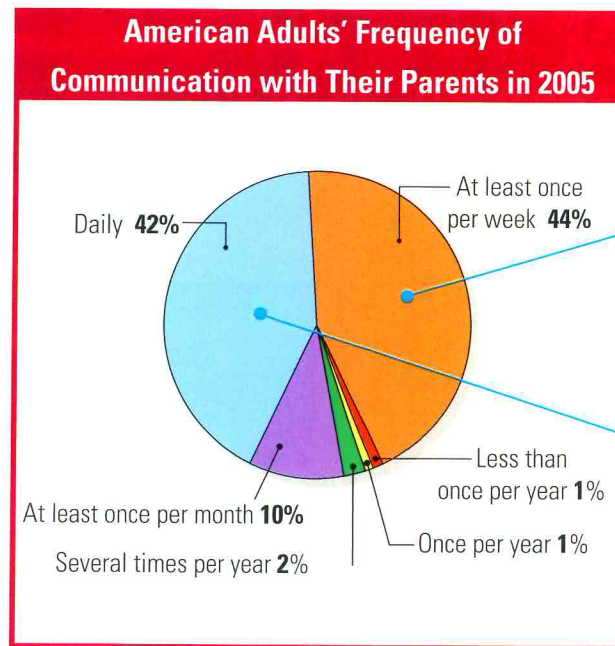


Source: Adapted from Pew Research Center, 2007

years are shown at the bottom, or horizontal axis. The line shows that Americans saved a smaller portion of their income over the time period.

Circle Graphs Circle graphs, or pie charts, begin with a circle representing the whole of something. The parts are shown as slices of a pie, with each slice representing part of the whole. Because a circle graph shows parts of a whole, information is often presented as percentages. For instance, instead of representing the population of North America in numbers of people, a circle graph might show it as a percentage of the total world population.

The circle graph on this page uses the 2005 data from the bar graph on the opposite page. The whole circle represents all the people surveyed in 2005. The graph is then divided proportionally by the different responses. The sizes of the slices allow you to easily compare the percentage of people who chose each response.



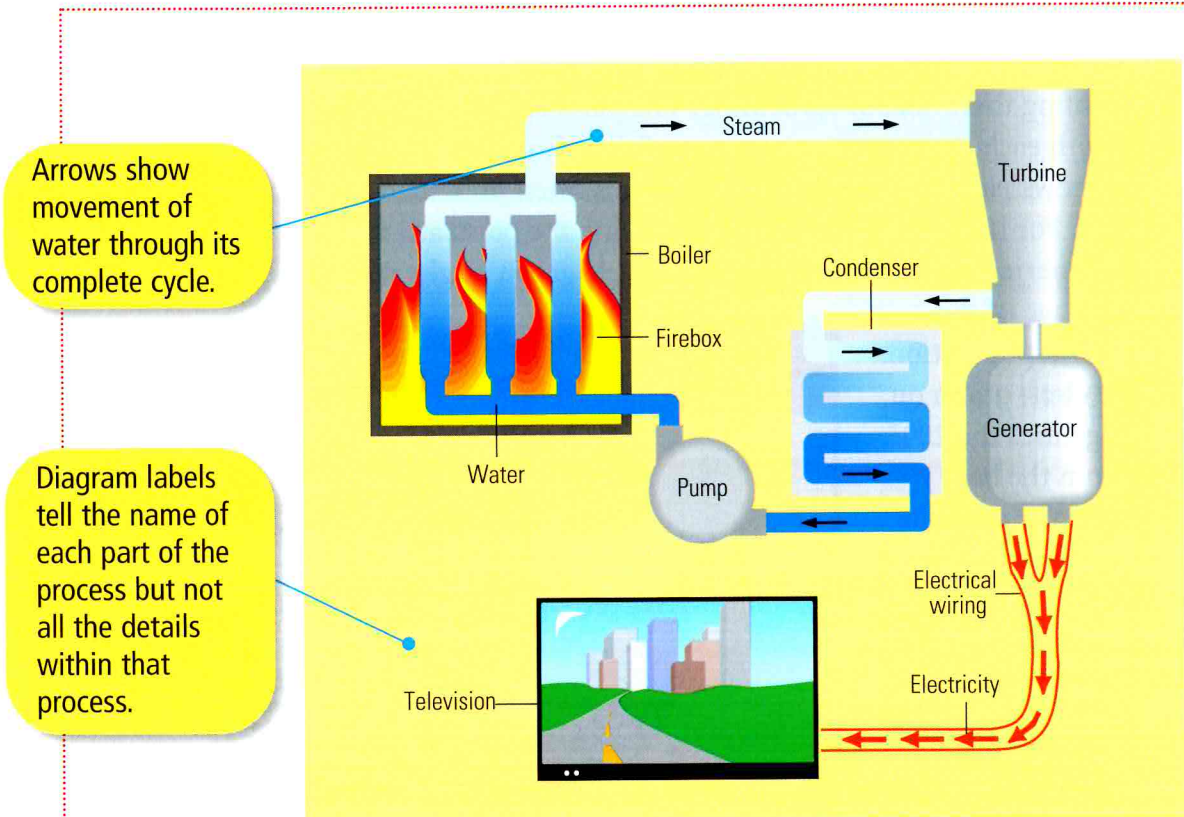
The response "At least once a week" is represents 44 percent of the surveyed people in 2005.

The next most frequent response, "Daily," accounts for 42 percent of the surveyed people.

Diagrams

Diagrams may illustrate the steps in a process or show how the parts of an object work together. You might find it difficult to learn about a complex process by reading about it or by listening to someone give an explanation. You might not be able to follow all the stages or understand all the parts without the help of a diagram.

In a diagram, each part of the object or process is labeled, sometimes with an explanation of its function. The diagram on the next page, for example, shows how heat energy is turned into electricity. Notice how each important part is labeled. Note also how the arrows show the movement of water and energy.



Exercise 7

Work with a classmate on one of the following projects. Display your completed project in class.

1. Find out the high temperature in a chosen city for each day of a particular week. Draw the appropriate graph showing the week's temperatures. Then write a brief paragraph explaining the graph.
2. Find the total number of games won by five competing athletic teams this season. Develop an appropriate graphic showing the number of games won by each of the five teams. Then write a brief paragraph explaining your graphic.

24.8

Memorizing

Do you ever call your best friend on the phone? Of course you do. Do you look up your friend's number in the phone book every time you call? You don't if you have it memorized. Memorizing phone numbers is easy, but what about things you need to know in school? What you memorize for school can be as helpful as learning a friend's phone number.

How to Memorize

Different people have different learning styles. A system may work for one person but not for someone else. The following are two techniques for memorizing. Try them and see which works better for you.

The most common technique for memorizing is repetition. If you combine writing with rereading, you may memorize important information even more quickly. If you learn better by hearing, tape record as you read aloud. Play back the tape as many times as necessary until you have memorized what you need to remember.

Visualizing is another method of memorizing. Use it to memorize small pieces of information, such as phone numbers, formulas, or the spelling of words. Look at the information. Then close your eyes and "see" the number or word in your mind. Visualize it in an interesting or humorous way. If you can get a unique picture in your mind, you're more likely to be able to visualize it again.

Tricks for Memorizing

Using memory games or tricks is another way to remember information. There are many different tricks or games you can use. Try making a sentence out of words that start with the first letter of each item in a list you want to memorize. Or make up a name using those same letters. You could also try writing a rhyme. Look at the chart on page 714. When you need to memorize something, try some of these memory tricks.

Tricks for Remembering

Purpose

To remember the number of days in each month of the year

To remember the year Columbus sailed to the Americas

To remember the order of the planets from the sun:

Mercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus, **N**eptune

To remember that the person who runs a school is a *principal*, not a *principle*

Memory Aid

Thirty days has September,
April, June, and November.
All the rest have thirty-one,
Except February alone,
Which has twenty-eight.
In leap year, coming once in four,
February then has one day more.

In fourteen hundred and ninety-two,
Columbus sailed the ocean blue.

My **v**ery **e**xcellent **m**other **j**ust
served **u**s **n**ectarines!

The principal is my pal.

Exercise 8

Develop a memory trick to remember the parts of the sun: core, photosphere, chromosphere, corona. Work on your own or with a classmate or two.

Exercise 9

With a partner choose at least two words from the list of Words Often Confused on page 692 in Lesson 23.7. Develop ways to memorize each word.