

How do reading, writing, and math relate to my success on the job?



Chapter 17

Basic Skills for Job Success

Key Terms

vocabulary
illiterate
proofread
metric system
meter
gram
liter
degrees Celsius (°C)

Chapter Objectives

After studying this chapter, you will be able to

- **state** the importance of the basic skills: reading, writing, and math.
- **count** change correctly.
- **describe** the metric system of measurement.
- **identify** basic computer skills.

Key Concepts

- Reading, writing, and math are essential skills for finding and keeping a job.
- Understanding basic math, counting change, and taking measurements are skills that employers expect.
- Basic computer skills are needed for most jobs today.

The Starting Point—Basic Skills

Basic skills are taught throughout your years in school because they are so important in your life. The three basic skills are reading, writing, and math. Why are these skills called basic? It is not because they are simple. Reading, writing, and math are called basic skills because they are the foundation for the development of more advanced skills. Basic skills also are keys to success.

Reading Skills

As you read this sentence, you are practicing the basic skill of reading. Imagine not being able to read. How would you find your way to a new place if you could not read a map or street signs? How would you know where to apply for a job if you could not read the newspaper want ads?

Most jobs involve reading in some way. At work, you may need to read the following:

- business letters
- customer orders to fill
- directions for operating pieces of equipment
- instructions from your supervisor
- the policies and procedures of your workplace

Once you have learned the basic skill of reading, you will need to continue practicing. The more you read, the better your reading skills will become. Reading for pleasure is a good way to improve your reading skills. *Reading for pleasure* means taking time to read any subject that interests you. You can choose books, magazines, or newspapers. Reading newspapers is also a great way to keep up with events that are occurring around you.

Reading helps you to increase your vocabulary. Your **vocabulary** is the group of words you know and use. Likewise, increasing your vocabulary helps to improve reading skills. If you do not understand a word you read, take time to look it up in a dictionary. You will learn a new word, which increases your vocabulary. You will get more enjoyment from what you are reading because you will understand it. Good reading skills are a requirement for the higher-paying jobs in the workplace, 17-1.



Your Reading

Why are the three basic skills important?

vocabulary

The group of words known and used by an individual.



Your Reading

How does reading relate to vocabulary?

17-1

Health professionals need to be able to read instruments and patients' records.



Making a Difference

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), there are 771 million illiterate adults in the world. Find out how you can help others in your community overcome illiteracy. Visit the ProLiteracy Worldwide Web site at proliteracy.org to locate a volunteer organization in your area.



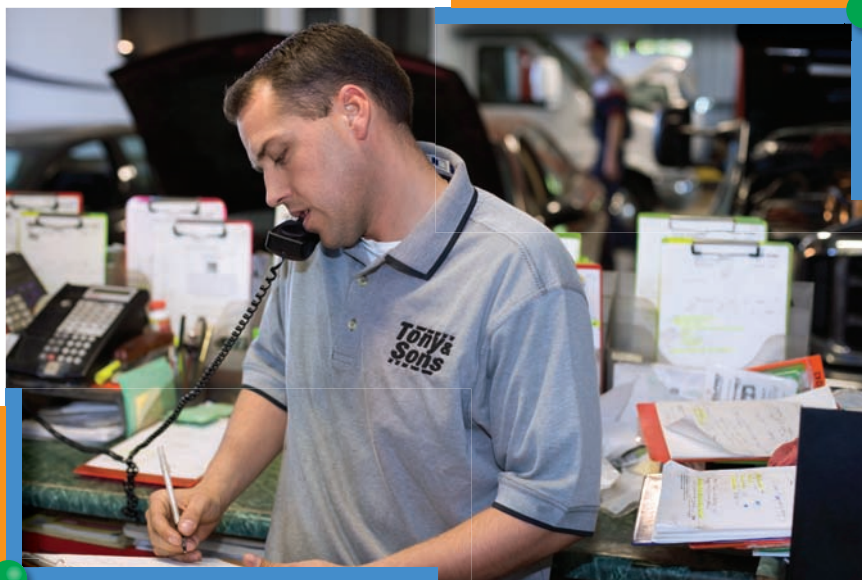
Writing Skills

A number of work tasks involve writing. Your job may require you to write the following:

- e-mails to coworkers
- business letters to customers
- orders from customers
- reports of your job activities
- research reports
- telephone messages, 17-2

Writing skills are closely related to reading skills. People who enjoy reading are likely to be good writers. Good writers use their vocabularies to express themselves on paper.

Your writing skills include your ability to spell and use proper grammar. Writing skills also involve your ability to construct clear sentences and organize paragraphs.

**17-2**

Workers are expected to have the skills necessary to take complete, accurate messages.

Like reading, writing is a basic skill needed to perform most jobs. A person who does not know how to read or write is **illiterate**. Thousands of people in the United States are illiterate. This often interferes with their ability to get or keep a job and earn a decent wage.

The quality of your writing says a lot about you. Whenever people read something another person has written, they form an impression of that person. If there are many errors, they may assume that person lacks writing skills. On the other hand, they may think the person is too careless or lazy to check what they have written and correct the errors. It is important to be a good writer. You do not want people to think you don't care about your work.

Whenever you write something for someone else to read, be sure to proofread it carefully. To **proofread** means to read something and mark any errors. As you read, think carefully about what your words say. Do they make sense? Are your ideas stated in an orderly manner? Use a dictionary to check your spelling. Use a language reference book to check your grammar and punctuation. Be sure to correct your errors as you rewrite or retype what you have written.

Practicing your writing skills can help you to improve. Try to write something every day. Writing can be in the form of a letter to a friend, an essay for school, or an entry in a personal journal or diary. When you are in school, much of

illiterate

Being unable to read or write.

proofread

To read something, check for mistakes, and mark any errors found.

your writing is done for homework. On days when you are not in school, try writing a short letter or e-mail message to a friend or family member. If you are creative, try writing a short story. You might want to keep a journal. This is a good way to record your thoughts on paper in a casual style. Whether you are writing for pleasure, for a job, or for school, always try to use good grammar and proper punctuation.

Using the Computer

One way to practice writing is with a computer. Some people write more easily with a computer than with a pen and paper. This requires basic keystroking skills that are perfected with practice. Using the computer for writing will strengthen your writing skills and prepare you for the workplace, 17-3.

The computer software programs that specialize in creating written communications are *word processing* programs. They usually include a feature that checks spelling, grammar, and punctuation. This feature does not, however, help you with *synonyms*, such as *sail* and *sale*. These are words that sound alike but are spelled differently. This is one example of the need for proofreading even when using a computer.

Computers are also used for writing e-mails. Again, proper grammar, capitalization, and punctuation are

17-3

The ability to use a computer to communicate is a requirement for many jobs.



important. Do not get into the habit of using shorthand or abbreviations common in instant and text messaging. Most e-mail programs include a spell-check feature, but it is still important to proofread before sending.

Math Skills

Jobs that require high-level math skills often have special computer programs for workers to use. Most jobs require basic math ability. This involves adding, subtracting, multiplying, and dividing.

Many people use these basic math skills every day in their job. They count money, count items to fill an order, add prices to get totals, and take inventory. Accountants, cashiers, and bank tellers continually work with numbers. Many other workers need a good working knowledge of numbers, too.

- Bakers and chefs measure ingredients, 17-4.
- Nurses must give patients the correct doses of medicine.
- Architects use precise measurements when drawing plans.
- Salespeople add totals and subtract discounts.
- Carpenters take frequent measurements when building houses.



Hershey Entertainment and Resort Company



Your Reading

What abilities are needed to write well?

17-4

Determining portion size and ordering the right amount of ingredients are some food service tasks that require good math skills.



Community Connections

Food service workers use math skills on a daily basis. Interview someone you know who works in this industry. Create a list of all the routine tasks accomplished by the employee that require math. Compare the results of your interview with a classmate's interview experience.

Even if a job does not require math ability, employers expect workers to be able to make basic calculations when needed. To prepare yourself for a variety of jobs, you should be able to work with whole numbers and mixed numbers. You should also know how to figure percentages, decimals, and fractions.

You have probably learned and reviewed each of these math skills. Identify the areas that give you trouble and practice solving math problems that address them. If you practice now, you will develop confidence and become better at math. Your efforts now in perfecting these skills may help you avoid job problems in the future.

Counting Change

Many jobs involve accepting money and counting change. Examples are the jobs of bank tellers, store clerks, food servers, and cashiers. People in these jobs must account for every penny of each transaction. Knowing how to count change is an important skill in your personal life, too. If you cannot accurately count money, you may cheat yourself or someone else. Most businesses today use cash registers to calculate the amount of change the customer receives. Workers who handle money usually receive special training and instructions.

Some basic guidelines will help you count change accurately.

- Place the cash from the customer on top of the register until the transaction is complete. This way there can be no mistake about the amount the customer gave you.
- Remove the correct amount of change from the cash drawer, as indicated by the register.
- Next, count the change out loud to the customer.
- Count from largest denomination to smallest. For example, when making change for a \$20 bill, count the \$10 bill, then any \$5 bills, and dollar bills last. Repeat the process for any coins.
- Give the customer the change.
- Place the cash from the top of the register in the drawer.

Do not rush! Take your time and count clearly. This may be difficult when there are 10 people in a cashier's line. Just stay calm and steady. The customer will appreciate your taking the time to assure accuracy. See 17-5.

Measurements

Many jobs involve taking and using measurements. Fashion designers need to take body measurements and measure fabric. Chemists need to measure chemicals. Engineers need to measure distances. If measurements are not made precisely, work may not be completed accurately.

Many countries follow the International System of measurement, also known as the **metric system**. It is a decimal system of weights and measures. In the metric system, the basic unit of measuring distance is a **meter**. One meter (m), about 39 inches, is slightly longer than one yard, which is 36 inches.

metric system

A decimal system of weights and measures.

meter

The basic unit of measuring distance in the metric system.



17-5

Businesses require their employees to count change out loud in front of customers.

In the United States, the basic units for measuring distance are inches, feet, yards, and miles. This measurement system is called the *U.S. customary system*. The terms *conventional* and *traditional* are also used to refer to the U.S. system.

Many products used in the United States are imported from countries that use the metric system. Therefore, being familiar with both systems will help you in many jobs. For instance, mechanics often use tools sized to fit metric parts.

Weight is measured in ounces, pounds, and tons in the United States. In the metric system, the basic unit of measuring weight is a **gram**. One gram (g) is much smaller than an ounce.

Volume is measured in cups, pints, quarts, and gallons in the U.S. system. In the metric system, the basic unit of measuring volume is a liter. One **liter** (l) is somewhat more than a quart.

Meters, grams, and liters are the basic units of measurement in the metric system. The size of the units are increased or decreased in multiples of 10. Six prefixes are added to the basic units to increase or decrease the size of the units. They are *kilo*, *hecto*, *deka*, *deci*, *centi*, and *milli*. See 17-6.

gram

The basic unit of measuring weight in the metric system.

liter

The basic unit of measuring volume in the metric system.

17-6

The metric system uses these prefixes to increase or decrease the size of meters, grams, and liters by multiples of 10.

Metric Prefixes

Prefix	Meaning	Distance	Weight	Volume
kilo	one thousand	kilometer (km) 1000 meters	kilogram (kg) 1000 grams	kiloliter (kl) 1000 liters
hecto	one hundred	hectometer (hm) 100 meters	hectogram (hg) 100 grams	hectoliter (hl) 100 liters
deka	ten	dekameter (dam) 10 meters	dekagram (dag) 10 grams	dekaliter (dal) 10 liters
deci	one-tenth	decimeter (dm) .1 meter	decigram (dg) .1 gram	deciliter (dl) .1 liter
centi	one-hundredth	centimeter (cm) .01 meter	centigram (cg) .01 gram	centiliter (cl) .01 liter
milli	one-thousandth	millimeter (mm) .001 meter	milligram (mg) .001 gram	milliliter (ml) .001 liter

Temperature in the United States is measured by degrees Fahrenheit (°F). Water freezes at 32°F, and it boils at 212°F. In the metric system, the basic unit of measuring temperature is measured in *degrees Celsius (°C)*. Water freezes at 0°C and boils at 100°C. One degree Celsius is somewhat more than two degrees Fahrenheit.

Changing from one unit to another in the U.S. system can be confusing. All the units are in different proportions. For instance, to change inches to feet, you must divide by 12. However, to change feet to yards, you must divide by 3.

Changing from one unit to another is easier in the metric system. All the units are multiples of 10. To change centimeters to decimeters, you divide by 10. To change decimeters to meters, you also divide by 10. (Simply moving the decimal point left one place is an easy way to divide by 10.)

Formulas can be used to convert between measurement systems. See 17-7. Normally you will work with one system rather than converting between the two. Working with different forms of measurement leads to mistakes if conversions are not made correctly. One example is the Hubble telescope, one of the most important space telescopes. The use of different measurement systems during construction led to errors and problems when first launched.

degrees Celsius (°C)
The basic unit of measuring temperature in the metric system.



Your Reading

What does basic math ability include?

Computer Skills

As you read in Chapter 1, the computer revolution has changed the way people live and work. At stores, computers itemize purchases and calculate their cost. Computers permit cell phones to operate without wires. At the gym, computers track membership and even workout results, 17-8.

Think about how often you come in contact with computers every day. You might use computers at school to take online tests. You might use computers at home to check e-mail, print digital photos, and write papers. All of these interactions help prepare you for using technology in the workplace. In many careers, workers use computers for several tasks:

- compose business letters and memos
- create reports, brochures, or newsletters
- e-mail business contacts

17-7

These equations can help you convert between measurement systems.

Measurement Conversions (approximate)				
Converting to Metric				
Known		Multiplied by		Equals
Distance				
inches	x	25.4	=	millimeters
inches	x	2.54	=	centimeters
feet	x	0.3	=	meters
yards	x	0.91	=	meters
miles	x	1.61	=	kilometers
Weight				
ounces	x	28.35	=	grams
pounds	x	0.45	=	kilograms
Volume				
fluid ounces	x	29.57	=	milliliters
pints	x	0.47	=	liters
quarts	x	0.95	=	liters
gallons	x	3.79	=	liters
Temperature				
Fahrenheit	x	0.56 (after subtracting 32)	=	Celsius
Converting from Metric				
Known		Multiplied by		Equals
Distance				
millimeters	x	0.04	=	inches
centimeters	x	0.39	=	inches
meters	x	3.28	=	feet
meters	x	1.09	=	yards
kilometers	x	0.62	=	miles
Weight				
grams	x	0.04	=	ounces
kilograms	x	2.2	=	pounds
Volume				
milliliters	x	0.03	=	fluid ounces
liters	x	2.11	=	pints
liters	x	1.06	=	quarts
liters	x	0.26	=	gallons
Temperature				
Celsius	x	1.80 (then add 32)	=	Fahrenheit

**17-8**

Workers at fitness clubs use computer databases to track member information.

Community Connections

A chamber of commerce is an organization of community business owners. Contact your local chamber of commerce by phone or e-mail. Ask for the names of three companies that employ a large number of people in your area. Visit the company Web sites and look for job announcements. Write a list of the basic and advanced computer skills needed to work at one specific job at each company.

- conduct Internet research
- compile and analyze data in a spreadsheet or database
- prepare slide shows for meetings and presentations

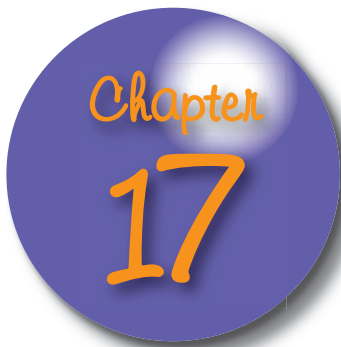
In today's workplace, many jobs require the use of a computer to get work done. As a result, employers expect job applicants to have basic computer skills. These skills include word processing, sending e-mail, accessing the Internet, managing data, and creating slide presentations. Your computer skills will impact your ability to find and keep a job.

Some jobs require advanced computer knowledge. Additional skills can be learned through on-the-job training, continuing education, or independent study. Such skills are also learned through extracurricular activities. For example, if you are interested in filmmaking, you might join an audiovisual club to learn video editing software.



Your Reading

Why is it important to have basic computer skills?

A circular graphic with a purple background and a white glow effect. The word "Chapter" is written in a light blue, sans-serif font at the top. Below it, the number "17" is written in a large, bold, orange font with a white outline and a slight shadow.

Summary

Basic skills are needed in school, at work, and in your personal life. You should do all you can to develop good reading, writing, and math skills.

Knowing how to write messages correctly is a skill needed by people in all types of careers. Writing well requires expressive language and accurate spelling, grammar, and punctuation. All the writing you do improves your writing skill, even writing for pleasure.

Math skills, like the other basic skills, are needed to succeed both personally and professionally. You should be able to add, subtract, multiply, and divide. These skills will allow you to perform basic job functions like counting change and using measurements.

You will most likely use some sort of computer on your job. Employers will expect you to have basic computer skills. These skills include word processing, sending e-mail, accessing the Internet, using spreadsheets or databases, and preparing slideshow presentations.

Reviewing Key Concepts

1. Identify the three basic skills.
2. Describe two work tasks that involve reading.
3. How can you improve your reading skills?
4. Why is illiteracy an obstacle to finding a job?
5. What impressions might people form about a writer whose material is full of errors?
6. How can you improve your writing skills?
7. Name three careers in which basic math skills are used every day.
8. What are the guidelines for counting change accurately?
9. Why is changing from one unit to another easier in the metric system?
10. Name four computer skills that many employers expect job applicants to have

Building Academic Skills

1. **Writing, speaking.** List ways to improve reading ability and vocabulary. Present your recommendations to the class.
2. **Reading, writing.** Read a book, magazine article, or newspaper story about a topic that interests you. Make a list of any words you do not understand. Use a dictionary to look up the words and write their definitions. Share your new vocabulary words in class.
3. **Writing.** Write a brief report summarizing what you read in the previous activity. Read your report and circle in ink any errors you find. Rewrite the report making any necessary corrections.
4. **History.** Research the role of moneychangers in early societies, particularly in areas where currencies varied. Give an oral report of your findings to the class.

Building Technology Skills

1. Investigate the U.S. rate of literacy using an Internet search. Compare this rate to the literacy rate for your community. Brainstorm ideas to increase student reading in your school.
2. Use a word processing program to write a story about a pet and exchange stories with a classmate via e-mail. Edit the story on the computer using track changes or a different colored font. After editing, e-mail the story to the original creator for a final draft. Discuss with your classmate whether the editing was helpful.
3. Conduct an online search of measurements and measuring systems. Find answers to the following questions: How did systems of measurement originate? Which societies made the greatest impact on the development of such a system? What was the system designed to measure? Is any ancient measuring system still in use?

Building Career Knowledge and Skills

1. Correspond with a pen pal. Share information with each other about yourselves, your families, and your career goals for the future. Remember to use good grammar and proper punctuation.
2. Visit a supermarket and find 20 different items. Develop a chart, and list each item's customary and metric measures.
3. Write a report explaining why a word processing program cannot check all spelling errors. Explain the possible outcomes of work reports with misspelled words.
4. Examine the classified ad section of the newspaper and identify ads that interest you. Describe how the basic skills of reading, writing, and math will be used in the jobs you identified.
5. Using play money, work with a partner and practice counting change.

Building Workplace Skills

Imagine you are in charge of determining work schedules for a small clothing store. Your doors open at 9:00 a.m. and stay open until 9:00 p.m. Your busiest hours are from 4:00 p.m. to 8:00 p.m. on weekdays and all day Saturday. During these busy hours, at least two people are needed on duty. Your store closes at 6:00 p.m. Saturday. You have one full-time employee who works five 8-hour days each week at \$10.00 per hour. She knows the store well enough to take care of it when you are gone. You can get part-time helpers who work less than 30 hours per week for \$8.00 per hour. Using a computer, develop a chart showing who works when—including yourself—for every hour the store is open. Total the cost of your helpers. Summarize your plan and report it to the class.