

# UNIT 1

## Preparing to Build

### In this Unit:

Chapter 1 The Construction Industry

Chapter 2 Building Codes & Planning

Chapter 3 Construction Safety & Health

### Hands-On Math Project Preview

#### Green Construction in the Community

After completing this unit, you will research an organization offering community development your area. You will also prepare cost estimates and schedules for a project designed for the organization.

#### Project Checklist

As you read the chapters in this unit, use this checklist to prepare for the unit project:

- ✓ Describe the scheduling responsibilities of a general contractor.
- ✓ Identify the different methods for estimating materials and cost.
- ✓ Think about the communication skills an entrepreneur will need to be successful.

 Go to [glencoe.com](http://glencoe.com) for this book's Online Learning Center (OLC). Find the WebQuest activity for Unit 1 called "Construction in the Community."



## Construction Careers **General Contractor**

**Profile** A general contractor coordinates and supervises the construction process of a structure from the original idea to the completion of construction. The contractor is responsible keeping the project on time and within budget.

### Academic Skills and Abilities

- mathematics
- interpersonal skills
- presentation skills
- general business management skills
- verbal and written communication skills
- organizing and planning skills

### Career Path

- on-the-job training
- apprenticeship programs
- certification
- community college courses
- bachelor's degree in construction science
- bachelor's degree in construction management

 Go to [glencoe.com](http://glencoe.com) for this book's OLC to find more informaton about carpentry and construction careers.

### Explore the Photo

**Preparing to Build** Construction is a process. *What are the first steps of the construction process?*

# The Construction Industry

## Section 1.1

Careers in Construction

## Section 1.2

Finding a Job

### Chapter Objectives

After completing this chapter, you will be able to:

- **List** career specialties in construction.
- **Identify** the education and training that can prepare you for a construction career.
- **Explain** the purpose and function of a business plan for entrepreneurs.
- **Define** employability skills.
- **Describe** how to apply for and obtain a job.
- **Identify** some responsibilities of employers and employees.



### Discuss the Photo

**The Big Picture** Building a house involves many different tasks. *What type of task might the person in this picture be performing?*



### Writing Activity: Quick Write

All successful businesses fulfill a need. With a teammate, brainstorm construction needs in your area. If you were to start a construction-related business in your area, what kind of business would it be? Write a paragraph describing your idea for this business.



## Before You Read Preview

The construction industry has many specialized careers. Choose a content vocabulary or academic vocabulary word that is new to you. When you find it in the text, write down the definition.

### Content Vocabulary

- |                   |                   |              |                   |
|-------------------|-------------------|--------------|-------------------|
| ● career clusters | ● certification   | ● work ethic | ● job application |
| ● career pathway  | ● entrepreneur    | ● networking | ● interview       |
| ● apprentice      | ● business plan   | ● résumé     | ● ethics          |
| ● trend           | ● free enterprise |              |                   |

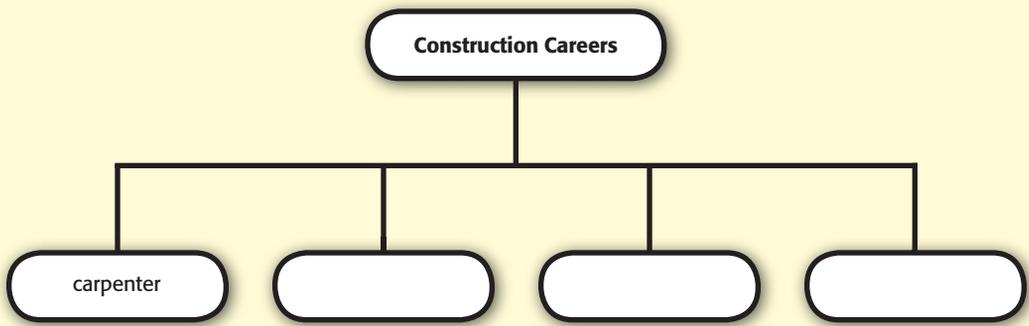
### Academic Vocabulary

You will find these words in your reading and on your tests. Use the academic vocabulary glossary to look up their definitions if necessary.

- |                 |            |            |            |
|-----------------|------------|------------|------------|
| ■ visualization | ■ features | ■ evaluate | ■ specific |
|-----------------|------------|------------|------------|

### Graphic Organizer

As you read, use a diagram like the one shown to organize the information, adding ovals as needed.



Go to [glencoe.com](http://glencoe.com) for this book's OLC for a downloadable version of this graphic organizer.

### Academic Standards

#### Mathematics

**Number and Operations:** Compute fluently and make reasonable estimates (NCTM)

**Problem Solving:** Solve problems that arise in mathematics and other contexts (NCTM)

#### English Language Arts

Use written language to communicate effectively (NCTE 4)

Conduct research and gather, evaluate, and synthesize data to communicate discoveries (NCTE 7)

### Industry Standards

Communication and Employability Skills

**NCTE** National Council of Teachers of English

**NCTM** National Council of Teachers of Mathematics

**NSES** National Science Education Standards

# Careers in Construction

## Construction & Building

### *What are the building trades?*

The construction industry employs over six million people in the United States. Construction is the process of building, and the construction industry builds both residential and commercial buildings. *Residential construction* involves building houses, remodeling houses, and building additions. *Commercial construction* includes the building of offices, stores, businesses, and government buildings, such as schools and hospitals.

Employment in construction is cyclical, which means that it rises and falls with the economy. When the economy is good, there are many new construction and remodeling projects. When the economy slows, however, the construction industry is one of the first to be affected. When people have less money to spend, there is less demand for new housing, and fewer houses and apartments are built. When interest rates for loans go up, contractors and housing developers may cancel plans for new construction. That means fewer jobs for construction workers. A good economy combines a need for construction with enough financial resources to fund it.

The number of jobs available in the industry fluctuates with the economy, but also depends on the number of qualified workers available. High employee turnover (the number of employees being hired compared to the average number of employees) and shortages of skilled workers and qualified training programs would lead to an excellent job outlook for the construction trades.

Construction has a high rate of self-employment. Self-employed workers may own their own businesses or work as consultants or independent contractors. This allows you to be your own boss and set your own hours. However, you must work

hard to build a reputation and customers to ensure that you have enough work to support yourself.

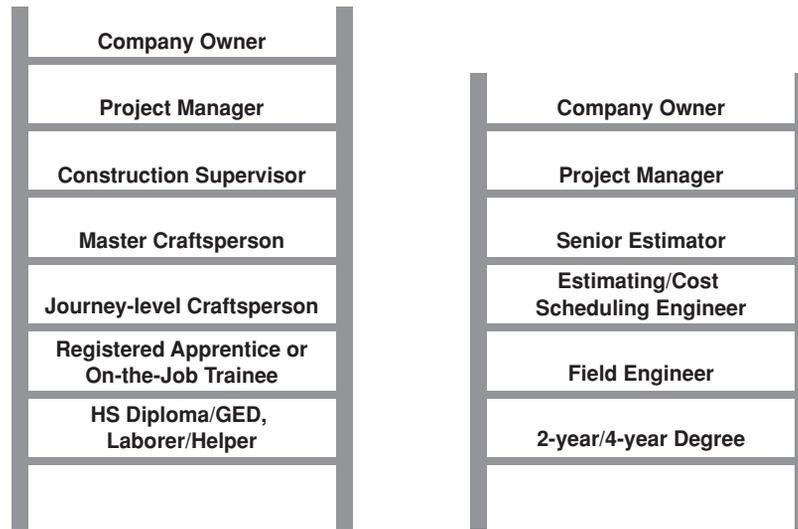
### Career Clusters and Pathways

**Career clusters** are groups of related occupations. Once you have chosen a field that interests you, you must look ahead and consider your career pathway. A **career pathway** is an area of concentration within a career cluster. Two career pathways are shown in **Figure 1-1**. Each pathway contains a group of careers that require similar academic and technical skills as well as similar industry certification or training and education. For example, the construction pathway is one pathway in the Architecture & Construction career cluster. Workers in the construction pathway need good communication, math, and problem-solving skills.

Your career path is your route to a particular career, made up of all of the career moves and job experience that you gain as you work toward your career goal. A career ladder is a **visualization** of your chosen career path. It helps you recognize where you currently are in reaching your goals and what your next career step may be.

Some construction jobs require little or no formal pre-employment training. These workers are trained on the job by more experienced coworkers. Other jobs require several years' experience and sometimes a license or certification to work in the field.

Some construction trade workers begin their careers in residential construction and later move on to other types of construction. Most employers prefer candidates with high school diplomas and who have some formal technical training or education. Apprenticeship programs are common for occupations that require a high level of skill, such as carpenters. An **apprentice** is an inexperienced



**Figure 1-1 Career Pathways**  
**Step by Step** A career ladder shows the steps to a career goal.

worker who learns a trade by working under the guidance of an expert worker. The U.S. Military also offers training for careers in this pathway.

To advance in construction, you need to obtain training, education, and work experience. Employees who take pride in the quality of their work will find many rewarding opportunities. Someone with a carpenter’s license can advance to become a construction superintendent. A graduate of a technical school may start as a drafter, creating architectural plans, and become a project manager. An assistant architect may work up to full professional status.

### Construction Specialties

Much of the work in construction is done by trained specialists. The three specialized categories are craft, technical, and professional.

**Craft Workers** Workers in the building crafts or building trades represent the largest group of skilled workers in the United States. There are more than two dozen skilled building crafts, and carpenters make up the largest group. Carpenters are skilled craft workers who work with mostly

wooden structures, as shown in **Figure 1-2**. They erect the wood framework of a building. They install molding, paneling, cabinets, windows, and doors. They build stairs and lay floors.

Members of the building trades often have a high level of skill earned through experience or training. In unions, for example, a worker in the crafts may begin as an apprentice. A journey-level worker has an intermediate level of skill. The highest level is that of *master*. You will learn more about apprentices later in this chapter.



**Figure 1-2 Construction Careers**  
**Specialties** Construction professionals can be craft, technical, or professional workers.

Construction craft work is sometimes grouped into three classifications: structural, finish, and mechanical. Occupations concerned mainly with structural work include carpenter, bricklayer, and cement mason. Finish work is done by painters, glaziers, and roofers. Occupations involving mechanical work include plumber and construction electrician. Many of these workers work outdoors. In some regions, the work tends to be seasonal because of climate or other factors.

**Technical Workers** Some careers in building construction require additional training and education at a technical institute or community college. Examples include architectural drafter, estimator, and purchasing agent. A drafter works on building plans. An estimator figures the cost of a project. A purchasing agent buys materials according to current needs.

**Professional Workers** College can prepare you for many professional careers related to construction. These include architect, engineer, and teacher at a trade or vocational school.

Management opportunities in the construction industry are also open to individuals with appropriate work experience, training, and education. For example, the management of a large construction project is the job of a construction supervisor, or construction administrator. This person schedules workers and inspections and arranges for the delivery of materials.

**Related Careers** There are also opportunities for employment in businesses that serve the construction industry. Many people sell or service tools and equipment. Others supply building materials. Some check for building code enforcement. Still others design, repair, or evaluate new products.

**Remodeling and Repair** Many jobs in the construction industry do not involve building new houses. This is because many people purchase a house that already exists instead of building a new one. There are some advantages to doing this. The supply of existing housing is huge so there are many choices in many price ranges. In addition,

buying an older house allows a family to move in quickly. An older house does not always fit the needs of its new owners. Sometimes rooms or **features** must be added, enlarged, or updated. Making these changes is called *remodeling*.

There are two general types of remodeling. One type of remodeling involves changing the exterior or interior of a house without adding to the size of the house. The other type of remodeling requires new construction that increases the size of the house. Many builders specialize in one or both types of remodeling and never build a new house. Some builders do both. When the demand for new construction slows, remodeling work often increases. This is because families who cannot afford to buy a new house often decide to improve the house they already live in.

Even a house that has never been remodeled will eventually require repair. On the exterior, weather causes paint to fade, roof shingles to crack, and wood to rot. Inside, years of use will cause surfaces and fixtures to wear out. Many building companies specialize in doing repair work. For example, some companies only replace roof shingles. Others specialize in replacing windows or siding, or installing extra insulation.

## Industry Trends

To plan for customers' needs, industry experts track trends. A **trend** is a general development or movement in a certain direction.

Trends affect job opportunities. For example, as the aging population increases, more people will be living in retirement centers and nursing homes. Therefore, more companies will be building these facilities. Three factors influencing residential building trends include family structure, work patterns, and personal preferences.

**Family Structure** Family structure is changing as the number of single and single-parent households increases. This has increased the demand for apartments and smaller, more energy-efficient houses.

**Work Patterns** The number of people who work and the increased number of hours they work reflect another trend. People want houses that require less maintenance because their time is limited.

**Personal Preferences** U.S. residents are increasingly moving to warmer climates. This has led to an increase in construction in those areas.

## Education & Training

### *What is certification?*

A high school education is a solid foundation on which to build a career in construction. Construction workers use math skills every day to measure and calculate. Science helps you understand construction methods and materials. Excellent communication skills, such as reading, writing, listening, and speaking, will help you communicate with coworkers and customers.

In both high school and college, you can also take technical education courses and join organizations such as SkillsUSA. SkillsUSA is a national organization that serves teachers and high school and college students enrolled in training programs for technical, skilled, and service occupations. SkillsUSA partners students with industry professionals through the SkillsUSA Championships. In these Championships, carpentry students can participate in contests that test their carpentry skills. Students are judged on their technical abilities. There are also other contests that involve customer service skills, leadership skills, and other work-related skills.

### Informal and Formal Training

Another way to learn about the industry is through a part-time, entry-level job in a construction operation. An entry-level position, such as carpenter's helper, requires little or no training or experience. You learn on the job. However, many carpenters learn their trade through formal programs. These include certification programs, apprenticeships (as shown in **Figure 1-3**), degree programs, and military training programs.

**Certification** Many community colleges and technical schools offer certificate or certification programs. **Certification** is a formal process that shows that an individual is qualified in a particular job or task. Certification assures potential employers that you have the skills and knowledge they require. Most certification programs for craft workers involve work experience, coursework, and a certification test. Industry or trade organizations often set standards for training and supervise certification programs.

Obtaining certification in any area of construction makes you more employable. Certification is available in specialty areas, such as building code enforcement, framing carpentry, and construction supervision. Certifications may need to be renewed after a certain period of time.

Before enrolling in a school or certification program, **evaluate** the program and the reputation of the school or organization. Find out what jobs are available for people with that particular certificate. Remember, certification programs usually focus on particular skills. Advancement opportunities may require that you obtain more formal education.



**Figure 1-3 Apprenticeships**  
**Learn the Trade** Apprenticeships are a common way of learning the carpentry trade.

**Apprenticeships** An apprenticeship is an effective way to gain real-life work experience. The apprentice may earn very little or no pay during the learning period. However, workers who have completed apprenticeships are well respected and well paid. In the construction industry, an apprentice carpenter learns under an experienced carpenter. An apprenticeship involves a combination of hands-on training and classroom instruction. Programs vary in length. For example, one carpentry apprenticeship requires an 8,000-hour program that combines on-the-job training and related classroom instruction.

Apprenticeships allow new workers to have plenty of hands-on experience. Professional organizations and industry associations often operate apprenticeship programs. These include the United Brotherhood of Carpenters and Joiners of America and the National Association of Home Builders. The U.S. Bureau of Apprenticeship and Training (BAT) is one place to find information about apprenticeship opportunities.

**Associate Degrees** Many colleges and universities offer two-year degrees, also called associate degrees, in the construction field. They provide hands-on experience so you can apply the techniques you have learned in the classroom. Select a program that meets your needs. Evaluate the program, the school's credentials, and the employment rate for graduates before making a decision.

**Bachelor's Degrees** Four-year programs, also called bachelor's degree programs, offer a well-rounded education. They often begin with general education courses in science and the humanities. They also can provide in-depth training in one or more areas that prepares students for supervisory and management positions. General degrees in subjects such as marketing, business, and management provide the basis for learning a wide range of skills and information.

Students may be able to take part in a cooperative education or work experience program at the same time that they are pursuing their

degree. Students are matched with a company whose business is related to their interests.

**Military Training** The military offers training in many construction specialties, as shown in **Figure 1-4**. They include carpentry specialist, electrician, and plumber.

**On-the-Job Training** On-the-job training is another option. Some construction managers use a method called job rotation. Entry-level workers are rotated through a series of jobs, which allows them to learn a variety of skills. This is similar to cross-training, in which workers are trained in different skills.

Job shadowing and internships are other forms of on-the-job training. *Job shadowing* is spending time with a worker on the job. It can last anywhere from a few hours to a few days. An *internship* is a short-term job or work experience. Internships can also combine classroom instruction and work experience. Many individuals benefit from finding a mentor, an individual who is willing to guide them and answer their questions.

Remodeling and repair work require many of the same skills needed for building



**Figure 1-4 Military Training**

**Build Skills** Skills learned in the military can be used in civilian life.

a new home. For this reason, many young people learn the skills needed for new construction by working on older houses.



### Reading Check

**Recall** What are some forms of on-the-job training?

## Entrepreneurship

*What are some advantages of entrepreneurship?*

An **entrepreneur** is a person who creates and runs his or her own business. Entrepreneurs take personal and financial risks. However, entrepreneurship can lead to great rewards. Entrepreneurs must be responsible to be successful, as shown in **Figure 1-5**.

An entrepreneur in the construction industry usually begins by opening a small business, such as a remodeling business. Small businesses are those with fewer than 100 employees. In the United States, more than 53 percent of the workforce works for



**Figure 1-5 Entrepreneurship**  
**Responsibility** An entrepreneur is responsible for making sure that all aspects of the job are on schedule.  
*What are some advantages of entrepreneurship?*

small businesses. Do the rewards of entrepreneurship outweigh the costs? **Table 1-1** compares the advantages and disadvantages of entrepreneurship.

## Types of Business Ownership

After you decide to open a business, you must choose the form of ownership. There are three common types of business ownership: sole proprietorship, partnership, and corporation.

A sole proprietorship is a business with only one owner. The owner, or proprietor, owns all the business's assets and is responsible for all its debts. A partnership is two or more people who share the ownership of the business. Control and profits of the business are divided among partners according to a partnership agreement.

A corporation is a form of business ownership in which a state grants an individual or a group of owners a charter with legal rights. The owners buy shares, or parts of the company. These owners, called shareholders, earn a profit based on the number of shares they own. If the business fails, the owners lose the money they have invested in the business.

**Table 1-1: Advantages and Disadvantages for Entrepreneurs**

Advantages	Disadvantages
<b>Ownership:</b> You are the boss and are responsible for making all the decisions.	<b>No guarantees:</b> New businesses have a high rate of failure.
<b>Job satisfaction:</b> You can build your reputation and take pride in your accomplishments.	<b>Competition:</b> Your competition may have greater skills and experience.
<b>Independence:</b> You decide what jobs to take and set your own hours and schedules.	<b>Long hours:</b> It is common for entrepreneurs to work evenings and weekends.
<b>Earning potential:</b> You might make more working for yourself than you could make working for someone else.	<b>Financial risk:</b> If you invest your own money, you could lose it all and even go into debt.

## Developing a Business Plan

One of the main reasons start-up businesses fail is that a business plan was not made or followed. A **business plan** gives specific information about the business and includes a vision, goals, strategies, and a plan of action.

The entrepreneur's vision should include the goods and services the business will offer. It should indicate how much it will cost to start and run the business and the business location. It must also include a description of the potential customers and an estimate of the profits.

After the vision is described, goals must be stated. These goals must be **specific**, concrete, and measurable. The plan must also give a timetable for meeting these goals.

A business plan should include strategies for meeting goals. These strategies may include the type of marketing the business will use to attract customers. Marketing is the process of promoting and supplying goods and services to customers. It includes packaging, advertising, selling, and shipping. A business also needs a plan of action. A plan of action helps a business reach its goals by identifying a specific course of action.

## Rules and Regulations

The economic system in the United States is known as the free enterprise system.

**Free enterprise** is an economic system in which businesses or individuals may buy, sell, and set prices for goods and services. However, businesses are subject to some government controls. For example, the government is responsible for passing and enforcing laws that set safety standards as well as laws that affect prices and wages.

Government also has a voice in building codes and zoning requirements. Zoning divides land into areas used for different purposes. Only certain types of buildings may be built within these defined zones. If you are in the construction business, it is important to understand the zoning process.

Before starting a construction business, you must obtain a license that grants you permission to open a business. Special liability insurance may also be necessary. This protects you from loss in case of damage.

Payment of taxes is another requirement. You must maintain accurate financial records of all income and spending. Many people use record-keeping software to set up and store this information electronically.

### Section 1.1 Assessment

#### After You Read: Self-Check

1. Name the three categories of specialized workers.
2. What three factors influence residential building trends?
3. What is the difference between an internship and an apprenticeship?
4. What are the components of a business plan?

#### Academic Integration: English Language Arts

5. **Career Information** Work with one or more classmates to find two sources of career information on the Web for your local area or your state. Prepare a three-minute oral presentation that describes the kind of information available in each source. In your presentation, describe how easy the source was to use, what questions the source helped you to answer, and whether you would recommend the source to others.

 Go to [glencoe.com](http://glencoe.com) for this book's OLC to check your answers.

## Employability Skills

### What are transferable skills?

Skills are things you know how to do. They can include things you are good at or ways of behaving. Some skills are specific to a certain task. For example, operating a forklift and installing a roof are skills for certain tasks. Skills that you can use in many different situations are called *transferable skills*. Writing, reading, and communicating are examples of transferable skills.

The basic skills you would need for a job in construction are the same transferable skills you would need to find and keep a job. These include academic skills such as mathematics, language arts, and science. Social communication skills, thinking skills, a work ethic, leadership skills, and personal qualities are also important.

### Basic Academic Skills

Every employer expects a worker to have certain basic academic skills. These skills provide you with a strong foundation for finding and keeping employment and advancing on the job.

**Mathematics** The ability to calculate, or work with numbers, is a basic part of every construction job. You will need to be able to add, subtract, multiply, and divide to solve on-the-job problems. You will also need to be able to measure and determine (figure out) lengths and angles. For example:

- Carpenters use math skills to measure and cut lumber, plan stairways, and frame roofs. They often refer to existing tables, such as **Table 1-2**, to help them make calculations.
- Construction managers use math skills to estimate lumber quantities, order lumber and other supplies, schedule deliveries,

set up employee work rosters, complete payroll and tax forms, prepare bids, and estimate profits.

- Employees use math skills to keep track of their work hours and pay rates.

**Reading** Much of the information you receive comes through reading. In construction, you will use reading skills to:

- Interpret building plans by reading schedules and measurements.
- Operate equipment by reading instruction manuals and safety precautions.
- Carry out general job duties by reading workplace policies and communications.

Practice the following steps to develop your reading skills:

1. **Preview.** Read headings and subheads to get an overview.
2. **Look for key points.** This is called *skimming*.
3. **Focus.** Pay full attention to what you are reading.
4. **Visualize.** If the text is not illustrated, try to picture what is being described.
5. **Check.** Ask yourself how well you understand what you have read. If there are words you do not understand, look them up in a dictionary. You can use a special construction dictionary, which contains construction terms.

**Table 1-2: Material Needed for Ceiling Plank**

Ceiling Plank	Board Ft Needed for 100 ft <sup>2</sup> of Surface Area	
	16" OC	24" OC
2×4	59	42
2×6	88	63
2×8	117	84
2×10	3.147	104

**Writing** Your ability to communicate in writing will help you find a job and perform well on the job.

Before you write anything, picture the audience, or the person or group who will be reading it. Then you can try to write to the audience's needs. Choose language that suits the purpose of your writing. Read what you have written and decide if you have achieved your purpose. The two most common forms of business writing are memos and business letters. Most business communications are intended for one of the following:

- To inform or give instructions.
- To request or ask for information, seek a decision, or call for action.
- To persuade the reader to agree or to pursue a course of action.
- To complain or to protest.

Your writing *style* involves your choice of language and tone. Business communications are written in a direct style with a professional tone.

Proofread documents before sending them. Be sure your ideas are easy to understand and flow in logical order. If you are writing on a computer, use the spell check and grammar check features to check your writing.

**Science** Construction is really applied science. For example, all the tools and structures you would use as a carpenter operate according to basic scientific principles. Concrete hardens because of a chemical reaction. The frame of a house bears heavy loads based on principles of physics such as measurement, weight, and pressure. Knowledge of scientific principles can help you on the job. It will help you understand why and how things work.

## Communication Skills

Communication skills other than writing include speaking and listening, as shown in **Figure 1-6**. These skills are often called *interpersonal skills* and are used to communicate ideas and to interact with others. They affect how you relate to coworkers and to customers.

**Speaking** On a construction site, your safety often depends on making yourself understood. How well you are understood depends on how effectively you speak. While speaking, pay attention to the following:

- Pronounce words clearly and correctly.
- Pronounce each syllable of a word.
- Speak slowly enough to be understood.
- Use appropriate volume.
- Avoid using *non-technical slang* (slang that is not related to the workplace) on the job.

When using the telephone, speak clearly and at a moderate volume. How you sound on the telephone may be a customer's first or only impression of your business.

**Body Language** *Body language* means the messages that your movements send. Body language includes gestures, posture, and expressions, such as the way you sit, stand, move your hands, and smiling or frowning. Examples of positive body language include



**Figure 1-6 Body Language**  
**Speaking and Listening** Active listening involves paying attention and responding.

smiling, looking others directly in the eye, and leaning forward slightly or nodding to show that you are paying attention to a speaker.

Avoid negative body language. Biting your nails and playing with objects such as pens or tools can show that you are nervous. Slouching, fidgeting, and avoiding eye contact can show that you are not paying attention or that you are bored.

**Listening** *Active listening* is the skill of paying attention to and responding to what someone says. An active listener pays attention and tries to see things from a speaker's point of view. If you are practicing active listening, you listen even if you disagree with the speaker and wait until the speaker has finished before replying or responding. Here are key steps in the listening process:

1. Think about the purpose of the message. Why is the person speaking?
2. Signal your level of understanding with body language, such as nodding your head.
3. Ask questions to help clarify, or make clear, points you do not understand.
4. Listen for the speaker's inflections. *Inflections* are tones that reveal feelings.
5. Look at the speaker's body language.
6. Take notes as needed about important points.
7. Listen for the conclusion of the message.

## Thinking Skills

On the job, you also need to think critically, make decisions, and solve problems.

**Thinking Critically** Thinking critically is the ability to analyze and evaluate. It enables you to respond to a variety of situations.

**Making Decisions** Making good decisions means carefully weighing all the evidence. It also means considering possible outcomes of your decisions.

**Problem Solving** You can use the problem-solving process in many different situations.

1. **Clarify the problem**, or state the problem clearly. This helps define what needs to be done.

2. **Gather information**. What is causing the problem? What resources are available?

3. **Identify** possible solutions.

4. **Select** the best solution. Look at the advantages and disadvantages of each.

5. **Test** your solution. This will reveal its strengths and weaknesses.

6. **Evaluate** the solution. Is it effective? If not, select another possible solution. Test each solution until you find one that works.

## Work Ethic

Your **work ethic** is the belief that work has value. If you have a good work ethic or a strong work ethic, you take pride in what you do. You know that your skills and efforts have value. A strong work ethic shows your commitment to doing your best on the job. The qualities that are part of a strong work ethic can be developed with practice. They include responsibility, flexibility, commitment, honesty, and cooperation.

Think of responsibility as responding to what a particular situation demands of you. Being responsible means showing up for work on time. It means becoming familiar with the tasks that make up your job and carrying them out correctly. A responsible person is someone who others can rely on. When you are responsible, you also accept the consequences of your choices and actions instead of blaming others.

Flexibility is the ability to adapt willingly to changing circumstances. It can also be a part of your work ethic. Being flexible on the job means adjusting to changes without complaining. The more confident you are in your skills, the easier you will find it to be flexible when circumstances demand it.

You practice honesty on the job when you are truthful and loyal in your words and actions. For example, if you make a mistake on the job, admit your mistake. Then find out how to prevent the same error in the future. Honesty also means not stealing. Stealing might be taking materials or not working while you are on the job.



 **Figure 1-7 Teamwork**  
**Work Together** Teamwork builds efficiency and encourages new ideas.

**Teamwork** As a construction worker, you will often find yourself part of a team, as shown in **Figure 1-7**. Teamwork means cooperation and trying to get along with everyone. You will practice teamwork on the job by supporting the efforts of your coworkers.

When you have a strong work ethic, you have a commitment to quality and excellence. In construction, a commitment to quality involves using quality materials and methods. When you are committed to quality, you strive to meet the highest standards.

## Leadership

Employers look for employees with leadership skills, too. Leadership is the ability to inspire others to accomplish a common task. It also plays a part in making you a good citizen.

You do not need to wait until you are employed to develop leadership skills. Organizations such as SkillsUSA can help.

## Managing Resources

Resources are the raw materials with which you do your work. Making the best use of resources is also a skill. The key resources are:

**Time** You use time effectively when you complete tasks quickly and accurately. You can also learn to prioritize, or put tasks in order of importance. Simplifying tasks is another way to use time well.

**Energy** Use personal energy resources effectively by getting the right amount of rest.

**Money** If you are responsible for making purchases, look for good value for the money. If you are receiving money in payment, be honest.

**Materials and Equipment** The materials, equipment, and tools associated with your job are resources. Use them properly and with safety in mind. Immediately report any problems with or damage to equipment and supplies. Do not waste materials.

**People** You are a resource. Your employer depends on your labor to accomplish tasks.

**Information** Information comes in many forms. For example, information is in the building plans you follow, the safety warnings on tools, and the instructions you are given on how to complete a particular task.

**Information Resources** On the job, you will acquire, use, and share information. Information comes from many sources. Your boss, your coworkers, a drawing, manual, and the Internet all provide information.

Look for clues to tell the difference between useful information and false or useless information. Is it from a reliable source? What evidence is given? Does it seem to make sense? Be careful when using information from the Internet. Some Web sites contain misleading information. Reliable information comes from known sources, such as government agencies.

Use information wisely. If you have been asked to frame a wall, use the information on the plans to do it properly. Ask for advice from experienced coworkers to help make the job go faster or more easily. Follow the instructions your boss has given you.

Share information. Do not keep important information to yourself. If you see a problem, tell your supervisor. If you have a suggestion for doing a better job, share it.

**Technology Resources** Technology has brought many changes to construction. Computers, improved tools and equipment, and engineered lumber products continue to make construction processes more efficient. These changes affect how jobs are done and who will do them. For example, surveyors now use lasers to lay out a building site. Carpenters use nailers to speed up framing. Supervisors access building plans on their computers.

Stay informed about new technologies and keep your skills up-to-date. Ask your supervisor if you can be trained to use those forms of technology that might be helpful.



**List** List academic skills used in carpentry.

## Finding Employment

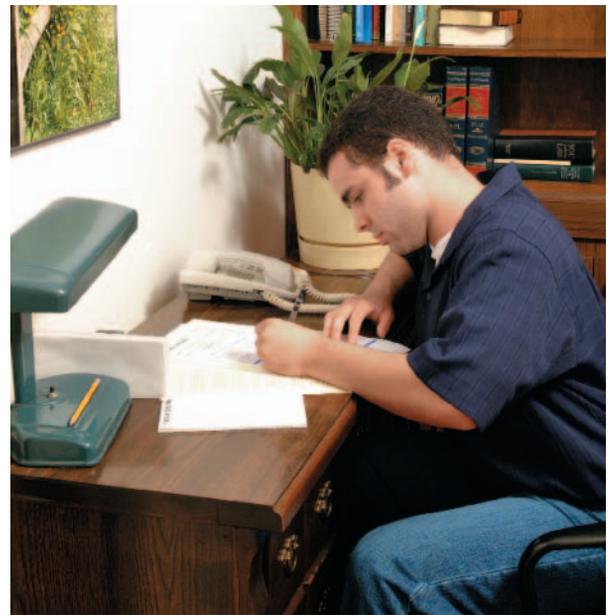
### What is networking?

Finding a job includes gathering information, applying for a job, having an interview, and responding to an offer.

### Gathering Information

The first step in the job-hunting process is gathering information, as shown in **Figure 1-8**. Many first-time job seekers think that classified ads are the only place to search for a job. Construction jobs are frequently listed in the newspaper. However, other helpful resources are available.

**Networking** If you have ever followed up on a job tip from someone you know, you have practiced networking. **Networking** means making use of all your personal connections to achieve your career goals. When you receive job information from people you know, you can be informed and confident. You can network with friends and classmates, teachers and mentors, family members, employers and coworkers, and school and professional organizations.



**Figure 1-8 Gather Information**

**Be Prepared** Before calling to find out about a potential job, prepare any questions ahead of time. *What else could you do to prepare for a phone call?*

When you network, be courteous and respectful. Do not pressure people for information. Follow up on job leads right away. Be on time for interviews. Return phone calls. Always present yourself professionally. Your appearance, communication skills, and behavior reflect upon both you and the person who recommended you. Remember to return the favor. When you become aware of job information, share it with your network.

**Trade Publications** Extend your job search resources by reading online and print construction trade publications. These professional magazines and newsletters are available by subscription. Most of them list job opportunities. Some of these publications can be found in libraries or on the Internet.

**Employment Agencies** Employment agencies put employers in touch with potential employees. Many employment agencies charge either the employer or the employee for their services. *Temporary agencies* (or *temp agencies*) are one type of employment agency.

**The Internet** Thousands of employment resources are available on the Internet. Search engines often list jobs by category. In addition, many companies include job opportunities on their own Web sites. You can network, contact professional organizations, read online versions of trade publications, and register with online employment agencies.

## Applying for the Job

Some employers may ask you to begin with a telephone call. Some will ask you to contact them by mail, sending a letter of application and a résumé. A **résumé** is a summary of your career objectives, work experience, job qualifications, education, and training. Other employers will ask you to come in and fill out an application.

Before you are hired, you will be invited to a job interview. Job interviews are formal meetings between you and your potential employer. It is important to perform each step of the job application process in a professional manner.

**Responding by Telephone** Your job leads may come from listings that give phone numbers and ask you to call for more information. A *hot call* is a call to a specific person or to get specific job information. A *cold call* is a phone call to a possible employer to ask for information about possible jobs.

When making a phone call, follow these guidelines to get the information you need:

- Tell the person who answers the phone that you are calling in response to a job opening. He or she will direct your call to the contact person.
- When you are connected to the contact person, give your name and the name of the job that interests you. If you were referred by someone, mention that person's name.
- The contact person will identify the next steps in the application process. These may include asking you to send a letter of application and a résumé. The contact person may offer to send you a job application or set up an appointment for an interview.
- Write down everything you are told to do. Repeat it to the contact person to make sure you have understood the steps.
- Ask any questions you may have about the application process. Answer any questions the contact person asks you.
- Thank the contact person for his or her time.

**Filling Out an Application** You may be asked to complete a job application form at some point during the job application process. A **job application** is a form that asks questions about a job applicant's skills, work experience, education, and interests. You can request job applications in person, over the phone, and over the Internet. Job application forms vary, but they all ask for the same basic information. A sample job application form is shown in **Figure 1-9**.

If you are asking for a job application in person, remember to make a good impression from the beginning. Do not enter a





## REGIONAL CONCERNS

**Local Career Info** Requirements for trade workers may vary by region, state, or they may even be specific to a particular construction project. For example, some construction projects may require that workers follow certain safety requirements related to the climate. Another job might require that workers should be able to speak both English and Spanish.

 Go to [glencoe.com](http://glencoe.com) for this book's OLC for more information about regional concerns.

potential workplace unless your clothing is neat and appropriate and you are clean and well groomed.

You can make sure that your application is accurate by creating a list of important information you will need in advance. This list includes your Social Security number (SSN), your driver's license number, and your contact information. You should also bring the contact information for any previous employers, your title, the tasks you did, when you worked there and for how long, and your pay rate.

Always fill out a job application completely, neatly, and accurately. On every job application, be sure to:

- Read and follow directions exactly.
- Use standard English and check your spelling with a dictionary if possible.
- Print neatly, using blue or black ink. Use cursive handwriting for your signature only.
- Read the instructions for completing each blank before responding. Try not to make errors. If you need to correct what you have written, draw a line through it.
- Answer every question. Do not leave any part of the application form blank unless you are asked to do so. If a question does not apply to you, draw a short line or write N/A, which stands for "not applicable," in the space provided.

- Always tell the truth on an application. Submitting false information is illegal.

Applications often request references. *References* are individuals who will recommend you to an employer. Choose references carefully and ask their permission before listing them on an application. Teachers, counselors, and former employers are good references.

**Testing** Some employers may require you to take one or more tests.

- A skills test or a performance test evaluates how well you can do a particular task. An example might be a basic math skills test.
- A drug test is a blood, hair, or urine test for illegal drugs.

**Responding in Writing** You may need to write a cover letter when asking for an application form or requesting an interview. A *cover letter* is a brief letter that introduces you to the employer and explains why you are applying for a job. A cover letter should include a brief summary of your education, your experience, and your other qualifications.

If you are sending an e-mail or a paper cover letter, make sure that you have used correct spelling and grammar and that you have the correct contact information. If you are mailing or faxing a paper letter, sign your letter in black ink and make sure that you have the correct contact name, address, and postage on the envelope.

**Preparing Your Résumé** A résumé is a brief summary of a job applicant's contact information, education, skills, work experience, activities, and interests. The five parts of a résumé are labeled in **Figure 1-10**. Your résumé gives an employer information about your background and gives you a chance to show that you are a good candidate for the job. A chronological résumé organizes information in reverse time order, beginning with your current work experience. Some guidelines for résumés follow on page 22.



## Figure 1-10 Chronological Résumé

**Experience** A chronological résumé shows your record of work experience. *What else is included in this résumé?*

**Contact Information** Place your name, full address, telephone number (with area code) and e-mail address at the top of your résumé

**Job Objective** State the job you are applying for. You can change this item if you are using the same résumé to apply for different jobs.

**Work Experience** List your work experience, beginning with your most recent job. Include volunteer or unpaid work (such as internships) if they relate to the job you are applying for.

**Skills Summary** Identify any business or other skills and abilities that you have gained in school, on a job, or in other situations.

**Education** List the schools you have attended and diplomas or degrees you have received, beginning with your most recent education and training. You may also include any special subjects, certification programs, or things you achieved while in these programs.

**Alyssa Rodriguez**  
6400 Old Guilford Road High Point, NC 27260  
(336) 555-0135 • a.rodriguez@emails.com

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**Job Objective** Apprentice-level carpenter for a residential construction firm.

**Work Experience**

Nov. 2011–present	Venuti Contractors	Greensboro, NC
-------------------	--------------------	----------------

*Apprentice Trainee*

- Cut and shape sidings, moldings, and lumber on various new home and remodeling projects
- Construct and erect frames for multiple new home projects
- Perform administrative tasks: interpreting blueprints, scheduling, creating estimates
- Use hand and power tools safely and efficiently for building tasks

Feb. 2010–Oct. 2011	Carolina Builders	High Point, NC
---------------------	-------------------	----------------

*Carpenter Assistant/Office Assistant*

- Performed window, door, and minor roof repairs under supervision
- Installed prefabricated doors, windows, and flooring
- Assisted in translation between carpentry supervisor and laborers
- Performed tool maintenance, door fitting, measurements, and stud location

**Skills Summary**

- Three years' experience in residential construction
- SkillsUSA CareerSafe Card and OSHA 10-hour Safety Course certified
- Strong interpersonal and communication skills; fluent in English and Spanish

**Education**

2012–Present	Waverly Community College	Greensboro, NC
--------------	---------------------------	----------------

*AA, Building Trades Technology (expected graduation date 8/2014)*

- Completed NCCER Level I craft completion level certification
- Coursework in Applied Mathematics and Construction Technology
- NCACP Commercial Carpentry certification courses

2008–2012	Liberty High School	High Point, NC
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*High School Diploma*

- Coursework: Construction Technology I/II, Advanced Algebra, Geometry
- 1<sup>st</sup> place, 2011 North Carolina SkillsUSA Championship in Carpentry
- Youth Apprenticeship Program, Carolinas Assoc. of General Contractors (CAGC)

- Keep your résumé brief.
- Include accurate contact information.
- Include your career objective.
- Stress relevant work experience, skills, education, and training.
- If you are submitting a résumé online, use keywords that describe your work experience. A *keyword* is a significant word that makes it easier for employers to search for relevant information. If your résumé contains a keyword such as carpentry or framing, employers with construction opportunities will be more likely to call up your résumé in an electronic search.
- Use correct spelling and grammar.
- Use white paper and dark type.
- Avoid using decorative graphics and styles.



**Summarize** What is the purpose of a résumé?

## The Interview

You may be asked to come in for a job interview. An **interview** is a meeting between an employer and a job applicant. You may not get an interview every time you apply for a job. During an interview, you will have a chance to convince an employer that you are the right person for the job. Employers will evaluate you based on your appearance, attitude, and your answers to questions.

### Before the Interview

The interview process begins when an employer arranges an appointment. Write down the date, time, and place of the interview. Ask for directions if necessary.

The more you know about the employer and the job, the better you will do in the interview. Check community business publications, local newspapers, Internet directories, and professional organizations. Try to find out the size of the business, its

profitability, and its plans for growth. Make notes about what you learn and think about your answers to possible questions.

**Focus on Appearance** Your appearance will affect the prospective employer's first impression of you. Make sure that you are clean and well-dressed, as in **Figure 1-11**. Make sure your hair and nails are clean and neatly trimmed. Wear only simple jewelry. If you are a man and do not wear a beard, shave before the interview.

Choose appropriate clothing that fits properly and is clean, pressed, and in good condition. If you are not sure what clothing is appropriate for your interview,



**Figure 1-11 Job Interview**

**Good Impression** An interview is your chance to make a good impression. *How can you prepare for an interview?*

call and ask. The person who interviews you will probably appreciate your attention to detail.

Allow plenty of time to locate your destination. Arrive a few minutes early. As you introduce yourself to anyone before meeting with the interviewer, be polite and respectful.

Some common questions asked by interviewers include:

- Why would you like to work here?
- What do you want to be doing in five years?
- What are your qualifications for this job?
- What are your strengths and weaknesses?
- Why did you leave your last job?
- Tell me about a challenge you met or a problem you solved in school or on the job.
- Have you ever been a member of a team or club? What did you like best and least about that experience?
- What questions do you have about the job or this company?
- Why should we hire you?

## During the Interview

You will do well in the interview if you are prepared, positive, and relaxed. The interviewer will introduce himself or herself. Smile and introduce yourself in return, and offer your hand for a firm, confident handshake. Remain standing until the interviewer asks you to be seated. He or she will probably ask a few simple questions to help you feel more at ease.

Throughout the interview, maintain eye contact with the interviewer. Eye contact helps show that you are interested in what the interviewer is saying. When you reply, use correct grammar and speak clearly. The interviewer will ask you questions designed to determine if you are the person needed for the job. Do not interrupt the interviewer. If you do not understand a question or do

not know the answer, say so politely. Do not be afraid to ask the interviewer about the nature of the job, your responsibilities, and the work environment. Save questions about pay and benefits, such as vacation time, for the end of the interview.

When the interview ends, thank the interviewer for his or her time. Shake hands as you leave. The interviewer will signal the end of the interview in one of the following ways:

- The interviewer may tell you that you will be contacted later. If the interviewer does not specify a time, politely ask, “When may I expect to hear from you?”
- You may be asked to contact the employer later. Note the telephone number, the preferred time to call, and the contact person.
- You may be offered the job. You may be asked to decide right away whether you will take the job. If you are unsure, ask the interviewer if you may think about the offer. If this option is offered, be sure to follow up by responding promptly.
- You may not get the job. Do not be discouraged. The interviewer does not have to tell you why you are not being offered the job. Accept the decision gracefully.

**After the Interview** After each job interview, you have several responsibilities. First, send the interviewer a letter thanking him or her for the interview. Do this even if you have been turned down for the job. Be sure the correct address, contact information, and the correct postage are on the envelope.

If you have been asked to contact the employer, do so at the specified time. Send or deliver any materials or information, such as references, you have agreed to supply. If the employer has promised to contact you, wait the specified amount of time. If this time passes, telephone the employer and politely ask about the status of your application. You may be asked to go through a second interview.

Right after the interview, go over the session in your mind. Make notes on anything that you could do to improve. Note any key information, such as employer expectations and job responsibilities. List any questions you still have about the job.

## Responding to a Job Offer

When you receive an offer of employment, you have three options. First, you can accept the offer. The employer will then give you information on when you will begin work. You may be asked to attend an employee orientation or a training session. You will be given specific details on pay, schedules, and other factors.

Second, you can ask for time to consider the offer. This is the time to bring up any unanswered questions that might affect your decision. Come to an agreement on when you will notify the employer of your decision. Do not be late.

Third, you can turn down the job offer. Perhaps the job is not right for you. You may have been offered a better job in the meantime. Whatever the case, if you do not intend to take the job, say so. You do not need to give reasons. Simply say, "Thank you for considering me, but I have decided not to take the job."



**Recall** When should you send a thank-you letter?

## On the Job

### What is ethical behavior?

When you accept a job, you enter into a relationship in which both parties have rights and responsibilities. In this section, you will learn about your rights as an employee and your responsibilities to your employer. You will become familiar with wages, taxes, and benefits. You will practice skills for getting along with others on the job. You will also identify some of the qualities required for advancement.

## Rights and Responsibilities

Your employer will explain company rules and expectations when you begin your job. Your main responsibility is to do the best job possible. Here are some general guidelines:

- Use time responsibly. Be on time for work. Return promptly from authorized breaks and meal periods. Stay at work for your full shift, or specified hours of employment. Keep busy on the job. Avoid using company time or resources for personal business without permission.
- Respect the rules. Learn and follow your employer's rules and policies. You may be given an employee handbook. If you are in doubt about a company policy, ask your supervisor. Avoid drug and alcohol use, especially on the job.
- Work safely. Familiarize yourself with the safety requirements of your job. Learn how to operate and maintain equipment safely. Report any unsafe conditions or practices to your supervisor immediately.
- Earn your pay. Complete each task you are assigned to the best of your ability. Keep your work area neat and organized. Respect the value of the equipment and materials you work with. Use company resources responsibly.

**Ethical Behavior** Your employer has the right to expect ethical behavior from you. Your **ethics** are your inner guidelines for telling right from wrong. Ethical behavior consists of doing what is right.

Much of the time, it is easy to recognize the ethical course of action or the right decision to make. However, some choices are more difficult. When deciding between choices that may appear equally right or equally wrong, ask yourself the following questions:

- Does the choice comply with the law?
- Is the choice fair to those involved?
- Does the choice harm anyone?
- Has the choice been communicated honestly?
- Can I live with the choice without embarrassment or guilt?



 **Figure 1-12 On the Job Hands-On Training** On-the-job training (OJT) provides firsthand experience in learning important skills.

## Employer Responsibilities

Your employer has responsibilities to you, too. Your employer must make sure that you are paid fairly for your work. You must also be given what you need to do your job. This often includes on-the-job training, as shown in **Figure 1-12**. Your employer must also provide safe working conditions and make sure you are treated fairly.

**Safe Working Conditions** Federal, state, and local regulations require your employer to provide you with safe working conditions. This includes:

- Eliminating recognized health and safety hazards. Injury prevention is part of this responsibility. For example, employers have supported research into repetitive stress injuries. These are injuries that develop among workers who perform the same motions repeatedly. They can affect a person's employability.
- Informing you when conditions or materials pose dangers to health and safety.



## **JOB SAFETY**

**WHAT IS NIOSH?** NIOSH is the National Institute for Occupational Safety and Health. It is a federal agency that researches and makes recommendations for preventing work-related disease and injury. For example, if carpenters were to suffer from carpal tunnel syndrome (a painful wrist condition), NIOSH would study the problem to determine its cause and prevention. It would investigate working conditions that might lead to the problem. It would then make recommendations about preventing the problem and help train safety and health professionals to deal with the problem. NIOSH's sister agency is OSHA, the Occupational Safety and Health Administration, which administers laws related to workplace health and safety.

 Go to [glencoe.com](https://www.glencoe.com) for this book's OLC for more on job safety.

- Maintaining records of job-related illnesses and injuries.
- Providing equipment and materials necessary to do the job safely, as in **Figure 1-13**.
- Complying with environmental protection policies for safely disposing of waste materials.
- Contributing to workers' compensation. If you are injured on the job and cannot work, your employer has a legal responsibility to provide financial help. This is called workers' compensation and it covers medical expenses and lost wages.

**Fair Labor Practices** Your employer has a legal responsibility to protect you from unfair treatment on the job. U.S. labor laws protect the following rights of employees:

- The right to have an equal opportunity to obtain and keep employment.
- The right to be paid a fair wage.
- The right to be considered fairly for a job or for a promotion.
- The right to be protected in times of personal and economic change.



**Figure 1-13 Work Safely**  
**Be Attentive** Safety is very important on a job site.

Equal opportunity, or *equity*, is part of the American workplace. Equity means fair treatment for everyone. Workers are chosen for jobs based on their skills and abilities, and not based on how they look or who they are.

Employers must also pay their employees at least the federal minimum wage. This is the lowest hourly amount a worker can earn. Employers must give employees who work overtime extra pay or time off. This time off is called *compensatory time*, or comp time.

American workers are guaranteed the right to join a *labor union*, which is an organization of workers in a similar field. Labor unions act as the voice of their members in collective bargaining. Collective bargaining includes negotiating for working conditions, contracts, and other job benefits for a group of workers.

Employers must also protect their employees from *discrimination*, which is unfair treatment based on age, gender, race, ethnicity, religion, physical appearance, disability, or other factors. In addition, sexual harassment, any unwelcome behavior of a sexual nature, is prohibited in the workplace. Sexual harassment can include jokes, gestures, repeated or threatening requests for dates, and unwanted touching. Both males and females can be the victims of sexual harassment.

If you are the victim of discrimination or harassment, here are some suggestions:

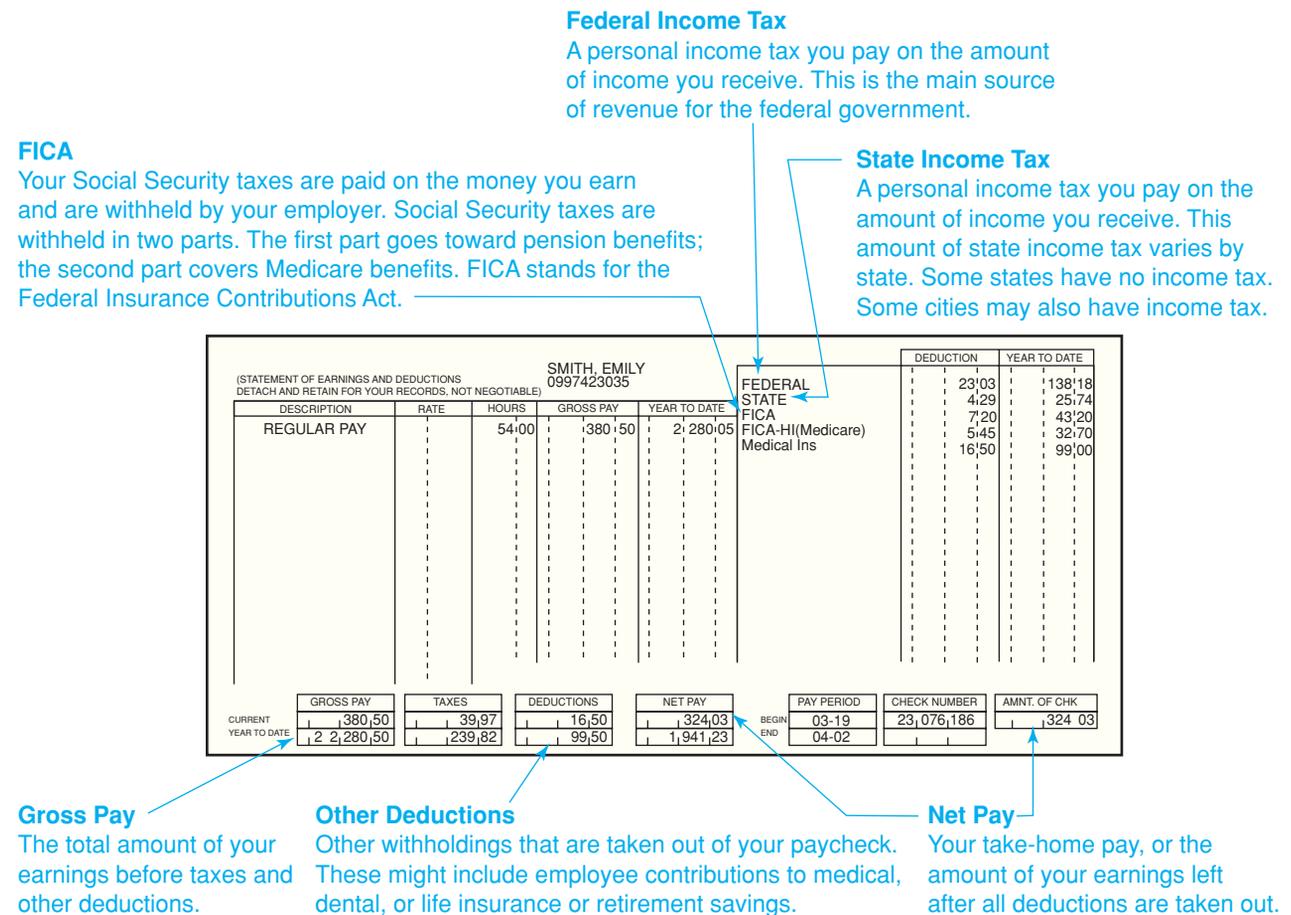
- Immediately tell the person to stop. Be clear and direct.
- Write down what happened, noting the date, time, and place. Include the names of any witnesses. You should also include any comments about how the harassment or discrimination affected your work.
- Inform a trusted supervisor and follow up.
- If the issue is not resolved, you can get help from your local human rights group or the office of the U.S. Equal Employment Opportunity Commission (EEOC).

**Wages and Benefits** When you agree to take a job, you trade your skills and efforts for pay. Your pay is determined by a number of factors. These include your level of experience, the difficulty of the work, and the number of people competing for the same job. Pay periods differ from employer to employer. Some employers pay weekly, others every two weeks, still others once a month. Others pay a set amount for particular jobs.

If you earn an hourly wage, you are paid a certain amount for each hour you work. Your pay varies depending on how many hours you work all together. If you receive a salary, your employer pays you a set amount of money per year, regardless of the hours worked. This amount is divided up and paid at regular intervals.

## Deductions

The amount of money you receive before deductions is known as your *gross pay*. The amount of money you actually receive is called your *net pay*, or take-home pay. *Deductions* are the amounts withheld from your gross pay for taxes, insurance, and other fees. Ask your employer to explain the deductions that will be taken from your pay. Some common deductions are shown in the callouts for the pay stub in **Figure 1-14**. These deductions include FICA (Federal Insurance Contributions Act), federal, state, and local income tax, gross pay, net pay, and other deductions, such as employee contributions to retirement plans or medical, dental, and life insurance.



**Figure 1-14 Pay Stub**

**Your Paycheck** A pay stub shows you the amount of each deduction taken from your gross pay.

## Benefits

In addition to giving you wages or a salary, your employer may offer benefits. Benefits are extras that workers receive on the job. Not all companies offer the same benefits. Some possible benefits include:

- health insurance
- dental insurance
- accident insurance
- vision insurance
- paid holiday days
- paid sick days
- paid vacation days
- life insurance
- disability insurance, which helps pay your expenses if you become disabled and can no longer work
- tuition reimbursement, which is full or partial repayment of tuition and fees you pay for education directly related to your career
- savings and investment plans, such as a 401k, to help you save money for retirement.

Be sure to figure in any benefits when calculating your job compensation. A high wage may make up for few benefits. A good range of benefits, on the other hand, can make up for a lower wage.

## Working With Coworkers and Customers

When you take a job, you also enter into a relationship with your coworkers and customers. Every person is an individual, with his or her own personality, strengths, and weaknesses. You will need to get along and work together with a variety of different people.

There are many ways to work together effectively. Some strategies include:

- Keep a positive attitude. An upbeat, positive outlook contributes to team spirit. Complaining can decrease morale and affect your job performance.

- Respect yourself. You demonstrate self-respect when you accept responsibility for your actions, learn from your mistakes, and take care of your appearance, your tools, and your workspace.
- Respect others. Try to empathize, or to see things from another's point of view. This will help you get along with others.
- Show respect for the property, time, and beliefs of others as well.

**Resolving Conflicts** No matter how well you and your coworkers get along, you will not always agree. Conflicts are part of team interaction.

You may encounter some conflicts that cannot be resolved. Exercise self-control. If you are criticized, focus on the problem, not the personalities involved. While conflict can be unpleasant, you can learn to resolve conflicts respectfully.

Respond to customer complaints in a professional manner. Do not take them personally. If you cannot solve the problem yourself, ask your supervisor to step in.



### Mathematics: Calculation

**Calculate Pay Differences** Mia is deciding between two four-week carpentry apprenticeships. Apprenticeship A pays \$7.00 an hour for 50 hours of work a week and includes health insurance at no cost to Mia. Apprenticeship B pays \$9.50 for 40 hours of work a week and does not include health insurance benefits. Mia thinks that she will need health insurance for her job in carpentry in case she becomes injured on the job, so she has decided to choose Apprenticeship A. How much less or more money will Mia make if she chooses Apprenticeship A instead of Apprenticeship B?

**Starting Hint** First, calculate how much Mia would earn for each apprenticeship. Then use subtraction to find the difference.

**Advancing on the Job** Advancement may involve a promotion. It may also mean staying at the same job level but with more or different responsibilities at a higher rate of pay.

Showing initiative can help you advance. *Initiative* is the quality of doing what needs to be done without having to be told to do it. Examples of initiative might include taking on new tasks and levels of responsibility. Workers with initiative do not have to be told what to do next.

Another way to advance your career is to continue your education or training through formal classes, workshops, or independent study. This shows a desire to learn and add to your skills and knowledge.

## Leaving the Job

At some point, you may seek a new job. Perhaps work is slow and you have been laid off. Perhaps you think you would be happier with a different employer. In either case, behave in a professional way when you leave. If leaving is your choice, give your employer at least two weeks' notice. Thank your employer for the opportunities you have been given.

Do not criticize your past employers during job interviews. If you are asked why you are leaving, you might say something like, "I am looking for better opportunities."

## Section 1.2 Assessment

### After You Read: Self-Check

1. What basic academic skills are needed for any job?
2. How can technology resources help your career?
3. What is the purpose of a résumé?
4. What is the difference between a salary and an hourly wage?

### Academic Integration: Mathematics

5. **Decimals and Percentages** Cuevas Construction has offered you a job as a carpenter's assistant. Your employer has told you that the tax on your weekly earnings will be 15% of your pay. Your pay is \$80.00 per week. How much will you pay in taxes each month? Assume that one month = 4 weeks.

**Math Concept** A percentage is an amount that represents the part of a whole, where the whole is 100%. It is a relative comparison. A percentage is easily converted to a decimal, which makes it easier to perform calculations with other numbers.

**Step 1:** Convert the percentage to a decimal by dividing by 100 and moving the decimal point two places to the left ( $15\% = 15 \div 100 = 0.15$ ).

**Step 2:** Multiply your total weekly earnings by the tax rate.

**Step 3:** Multiply the tax each week by the number of weeks in a month.

 Go to [glencoe.com](http://glencoe.com) for this book's OLC to check your answers.

# Review and Assessment

## Section

## 1.1

## Chapter Summary

Construction is the process of building. Construction jobs fall into craft, technical, and professional categories. Customer needs influence construction trends. Education and training for a construction career includes certificate programs, apprenticeships, associate's degree and bachelor's degree programs, military training, and on-the-job training. An entrepreneur creates and runs his or her own business. Entrepreneurs need a business plan.

## Section

## 1.2

A person's employability skills include academic, interactive, and thinking skills; a strong work ethic; leadership skills; and the ability to use and manage resources. The process of finding a job includes gathering information, applying for a job, the interview, and responding to a job offer. An application form, résumé, and cover letter provide information about the job seeker. Both employers and employees have responsibilities on the job. Safety is an important concern.

## Review Content Vocabulary and Academic Vocabulary

- Use each of these content vocabulary and academic vocabulary words in a sentence or diagram.

### Content Vocabulary

- career clusters (p. 6)
- career pathways (p. 6)
- apprentice (p. 6)
- trend (p. 8)
- certification (p. 9)
- entrepreneur (p. 11)
- business plan (p. 12)
- free enterprise (p. 12)
- work ethic (p. 15)
- networking (p. 17)
- résumé (p. 18)
- job application (p. 18)
- interview (p. 22)
- ethics (p. 24)

### Academic Vocabulary

- visualization (p. 6)
- features (p. 8)
- evaluate (p. 9)
- specific (p. 12)

## Speak Like a Pro

### Technical Terms

- Work with a classmate to define the following terms used in the chapter: *residential construction* (p. 6), *commercial construction* (p. 6), *master construction* (p. 7), *remodeling* (p. 8), *job shadowing* (p. 10), *internship* (p. 10), *transferable skills* (p. 13), *interpersonal skills* (p. 14), *non-technical slang* (p. 14), *body language* (p. 14), *active listening* (p. 15), *references* (p. 20), *initiative* (p. 29).

## Review Key Concepts

- Name three different career specialties in construction.
- Identify two ways to prepare for a career in construction.
- Describe the role of a business plan for an entrepreneur.
- List three employability skills.
- Identify the components of a chronological résumé.
- Explain what it means to have a strong work ethic.

## Critical Thinking

9. **Explain** What is the difference between gross pay and net pay?

## Academic and Workplace Applications

### STEM Mathematics

10. **Rounding and Estimation** Coray makes \$10 per hour for regular hours and 1.5 times regular pay for overtime. He worked 69.5 regular hours and 22.25 overtime hours this month. Round to the tens place to estimate his gross pay for this month.

**Math Concept** When rounding numbers, look at the digit to the right of the place to which you are rounding. If the digit is 5 or greater, round up. If the digit is less than 5, round down.

**Step 1:** Calculate overtime pay ( $\$10 \times 1.5$ ).

**Step 2:** Round Coray's hours (69.5 and 22.25) to the nearest tens place.

**Step 3:** Multiply the rounded numbers by the corresponding rates per hour. Add the two numbers together to find the gross pay.

### 21st Century Skills

11. **Communication Skills** Your employer may ask you to present technical information to new employees or even a customer. Prepare a three-minute oral presentation for your classmates that describes the content of a topic listed in this chapter. First, evaluate your audience. How much do they already know? Next, prepare an outline of the material you want to cover. If you are explaining a process, start with the first step and move in order through to the last. Give background information or an overview first. If possible, provide visual examples and give a demonstration. Then summarize the information in your presentation. When you have finished, ask for questions.

### 21st Century Skills

12. **Information Literacy** Use the Internet and other resources to research information on construction-related certificate and apprenticeship programs in your area. Locate information on the associate's and bachelor's degree programs available in your state. Then visit at least one military Web site to learn about education available. Create a one-page chart that compares all the programs, including duration (length of time it takes to complete the program), cost, and the certification achieved or the employment result.

### Standardized TEST Practice



#### True/False

**Directions** Read each statement. Fill in the bubble marked **T** if the answer is true. Fill in the bubble marked **F** if the answer is false.

- T**  **F** 13. Construction industry workers are always self-employed.
- T**  **F** 14. Listening and speaking are examples of communication skills.
- T**  **F** 15. Remodeling a house is an example of residential construction.

#### TEST-TAKING TIP

*Make sure you understand the full statement before you decide whether the statement is true or false. Remember that all parts of a statement must be correct in order for the statement to be true. Statements that contain extreme words such as all, none, never, and always, or that have unsupported opinions, are often false.*

\*These questions will help you practice for national certification assessment.