

Jobs for Which You Can Qualify If You're Not a High School Graduate



U.S. Department of Labor
Bureau of Labor Statistics
1979

HIGH SCHOOL
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Jobs for Which You Can Qualify If You're Not a High School Graduate

Are you worried about your chances of finding a job because you don't have a high school diploma? While it's true that graduation from high school has become almost standard in recent years, there still are many jobs for which practical experience and ability are more important than formal education. And if you're willing to get some additional training—through an apprenticeship program, for example—you can learn a skill that can provide high earnings and good job opportunities.

This pamphlet contains a list of occupations—selected from the 1978-79 *Occupational Outlook Handbook* of the Bureau of Labor Statistics—for which a high school diploma is not required. It highlights the job qualifications and employment outlook for each. You should recognize, however, that employers in many areas strongly prefer to hire graduates for some of these occupations, and that a diploma may be required for advancement or entry into a training program.

These summaries cannot provide all the information you need, however. Information on special talents, aptitudes, or interests a job may require has been omitted. Also, the outlook information reflects conditions expected over the 1976-85 period for the Nation as a whole and may not represent job opportunities in any one year or specific area.

If you want more information about an occupation, look in the *Occupational Outlook Handbook*. It describes the nature of the work, places of employment, job qualifications and advancement prospects, employment outlook, and earnings and working conditions for hundreds of occupations. It also lists other helpful sources of career information.

The *Handbook* is available in offices of school guidance counselors and employment counselors and in school and public libraries. Or it may be purchased for \$8 by check or money order from the nearest regional office of the Bureau of Labor Statistics. A list of office and their addresses appears at the back of this pamphlet.

Reprints from the *Handbook* also are available, each containing information about several related occupations. At the end of this pamphlet is a list of

reprints along with an order form. Each reprint costs \$.50; the entire set of 42 may be purchased for \$8.

This pamphlet is one in a series of five prepared by the Bureau of Labor Statistics. Each pamphlet discusses job opportunities for a group of occupations for which a particular educational or training background is applicable. The other titles in the series are: *Jobs for Which You Can Train Through Apprenticeship*; *Jobs for Which You Can Qualify If You're a High School Graduate*; *Jobs for Which You Probably Will Need Some College or Specialized Training*; and *Jobs for Which You Probably Will Need a College Education*.



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Industrial Production and Related Occupations

Foundry Occupations

Molders. Completion of a 4-year apprenticeship is the recommended way to learn skilled hand molding. Workers who have this training also are preferred for some kinds of machine molding. Informal on-the-job training takes longer and is less reliable than apprenticeship. An eighth grade education usually is the minimum requirement for apprenticeship; however, many employers prefer high school graduates. Less skilled hand molding jobs can be learned on the job in 2 to 6 months.

Outlook. Employment is expected to increase about as fast as the average for all occupations. Although a large demand for metal castings is likely, labor-saving innovations will moderate employment growth.

Coremakers. Completion of a 4-year apprenticeship is the recommended way to learn the trade. Applicants for apprenticeships must have at least an eighth grade education; however, most employers prefer high school graduates and may require apprentices to have graduated. Inexperienced workers may learn less skilled coremaking on the job.

Outlook. Employment is expected to increase about as fast as the average for all occupations. Although foundry production is expected to increase greatly, the growing use of machine coremaking may limit the need for additional workers.

Machining Occupations

Machine tool operators. These workers are classified as either semiskilled or skilled operators. Most are trained on the job. Just a few months of experience are required for most semiskilled operators to learn their trade, but 1 to 2 years often are required for skilled operators. Some operators receive training in vocational schools and apprenticeship programs. A high school diploma is not required, but courses in mathematics and blueprint reading are helpful. Employers look for workers who have physical stamina and mechanical aptitude, or experience with machinery.

Outlook. Employment is expected to increase about as fast as the average for all occupations as employment in the metalworking industries expands. Although advances in machine tools may limit the need for workers in some jobs, opportunities generally should be plentiful.

Other Industrial Production and Related Occupations

Assemblers. Training varies according to the level of skill required. Most inexperienced persons can be trained on the job in a few days or weeks, but, for some types of complicated assembly work, training lasts much longer. Employers look for workers who can do routine work at a fast pace. Although a high school diploma usually is not required, vocational school courses, such as machine shop, may be helpful, especially for the more highly skilled jobs.

Outlook. Employment is expected to increase faster than the average for all occupations due to growing demand for consumer products and industrial machinery and equipment. However, fluctuations in the economy and changes in national defense spending often affect job opportunities.

Automobile painters. Most of these workers start as helpers and acquire their skills working for 3 to 4 years with experienced painters. A small number learn through a 3-year apprenticeship. A high school diploma usually is not required. Good color sense and the ability to do detailed work are helpful personal characteristics.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for these workers is expected to grow as the number of vehicles damaged in traffic accidents grows. Job opportunities are best in heavily populated areas.

Blacksmiths. Many blacksmiths are trained by working as helpers in blacksmith shops or industrial firms that employ blacksmiths. Some enter through 3- or 4-year apprenticeship programs. Vocational school or high school courses in metalworking and blueprint reading are helpful. A high school diploma is not required. Blacksmiths who shoe horses are called farriers. Most farriers learn their craft by assisting experienced workers. Others take a 3- or 4-week course in horseshoeing before gaining experience on their own or as a farrier's assistant. These courses are taught in several colleges, as well as at private horseshoeing schools. Most of these are located in the Midwest. At least 3 to 5 years of special training or experience are needed to learn to shoe racehorses. Farriers who wish to work at race-tracks must pass a licensing examination during which they demonstrate their knowledge of corrective shoeing techniques and proper choice of shoes for various track conditions.

Outlook. Employment is expected to decline as welders and machines replace blacksmiths in large shops. Employment of farriers will increase slightly due to the growing popularity of horseracing and recreational horseback riding.

Boilermaking occupations. Included in this group are layout workers, fitters, and boilermakers. Most layout workers and fitters are hired as helpers and learn the craft by working with experienced employees for at least 2 years. Many boilermakers also learn their trade on the job, although most training authorities recommend a 4-year apprenticeship. For all three occupations, employers prefer high school or vocational school graduates who have had courses in shop, mathematics, blueprint reading, welding, and machine metalworking. Due to the strenuous nature of the jobs, most firms require applicants to pass a physical examination.

Outlook. Employment is expected to increase much faster than the average for all occupations due to construction of many new electric powerplants and expansion of chemical, petroleum, steel, and shipbuilding industries. Jobs are sensitive to economic changes.



Boiler tenders. Most of these workers acquire their skills by working as helpers or oilers in boiler rooms. High school graduation usually is not required; however, courses in mathematics, motor mechanics, chemistry, and blueprint reading may be helpful. Stamina and endurance are necessary because boiler tenders are exposed to noise, heat, fumes, and smoke on the job. Some large cities and a few States require boiler tenders to be licensed. Applicants for a license must pass a written test.

Outlook. Employment is expected to decline as more boilers are equipped with automatic controls. However, some openings will arise from replacement needs.

Forge shop occupations. Most workers learn these trades on the job. Generally, they start as helpers or heaters on hammer or press crews and learn by watching and assisting experienced workers. Workers advance to more skilled occupations as they gain experience and as openings occur. Some forge shops offer 4-year apprenticeship programs for skilled jobs, such as die sinker and heat treater. High school graduation generally is not required but may be preferred for the more skilled occupations. Workers need stamina and endurance to work in the heat and noise of a forge shop, and strength to lift and move heavy forgings and dies.

Outlook. Although forge shop production should expand considerably, employment growth is expected to be slower than average as improved forging techniques and equipment allow greater output per worker. Most job openings will arise from replacement needs.

Furniture upholsterers. The most common way to learn this trade is to work as a helper in an upholstery shop for about 3 years. Vocational or high school courses in upholstery provide a good background, but experience still is necessary to refine one's skills. A few people acquire their skills through 3- to 4-year apprenticeship programs. A high school diploma is not required.

Outlook. Little change in employment is expected as people buy new, inexpensive furniture instead of reupholstering the old. Most job openings will be limited to replacement needs.

Inspectors (manufacturing). Inspectors generally learn their skills on the job. Depending on the skill required for the particular job, training may last from a few hours to several months. Requirements for the job vary. Some employers hire applicants who do not have a high school diploma but who have experience working as an assembler and are able to follow instructions and concentrate on details. Good eyesight—with or without glasses—usually is necessary.

Outlook. Employment is expected to grow faster

than the average for all occupations as the amount of industrial machinery and equipment increases and as manufactured goods become more complex. Some industries that employ inspectors are sensitive to business conditions.

Millwrights. Generally, these workers start as helpers and rotate from job to job for 6 to 8 years to acquire the necessary skills. Millwrights also are trained through 4-year apprenticeship programs that combine on-the-job training with classroom instruction. Good physical condition is required. High school courses in science, mathematics, mechanical drawing, and machine shop are useful.

Outlook. Employment is expected to increase about as fast as the average for all occupations. Jobs will be created with the construction of new plants, improvements in existing plants, and installation and maintenance of increasingly complex machinery.

Motion picture projectionists. Most motion picture theaters in urban areas are unionized, and projectionists in these theaters must meet union membership requirements. Some union locals accept only persons who have experience running theater projectors. Other locals conduct apprenticeship programs for inexperienced persons. In these programs, apprentices work with a variety of projection equipment under the supervision of experienced projectionists. They also may take courses in basic electronics and mechanics. In a non-union theater, a trainee may start as an usher or helper and learn the trade by working with an experienced projectionist. A high school diploma is preferred by employers and may be required by union locals. Experience acquired while serving in the Armed Forces is helpful. Local governments may require projectionists to be licensed.

Outlook. Little change in employment is expected. Limited growth in the number of theaters and the use of laborsaving equipment will restrict openings, thus creating keen competition for jobs.

Photographic laboratory occupations. Most photographic laboratory workers learn their skills through on-the-job training. High school graduates generally are preferred by employers. Some trainees become specialists in a particular laboratory procedure; training time for one of these semiskilled occupations ranges from a few weeks to several months. Other trainees become all-round technicians, learning their trade in about 3 years. College courses in photographic technology are useful preparation for technicians who wish to become supervisors or managers.

Outlook. Employment is expected to grow faster than the average for all occupations due to increasing use of photography in business and government

and the growing popularity of amateur photography.

Power truck operators. Newly hired operators are trained on the job. Most workers can learn how to operate a power truck in just a few days, but it may take several weeks to learn the physical layout and operation of a plant and the most efficient way of handling the materials to be moved. Some power truck manufacturers conduct short training courses for operators employed by their customers. A high school diploma is not required.

Outlook. Employment is expected to increase about as fast as the average for all occupations. Growth will occur as more firms use power trucks in place of hand labor. Job opportunities will depend on the demand for manufactured goods.

Production painters. New workers usually learn by watching and helping experienced painters. Beginners often start out assigned to loading and unloading the conveyor lines that carry the items to be painted. Training may vary from a few days to several months. A high school diploma is not required. Good physical condition is necessary because painters must stand, stoop, and bend in their work, and are exposed to fumes.

Outlook. Employment is expected to grow about as fast as the average for all occupations. Although manufacturing output is rising rapidly, increased use of automatic painting processes and other laborsaving innovations will moderate demand for painters.

Stationary engineers. Many start as helpers or craft workers in other trades and acquire their skills informally during many years on the job. Technical or other training in vocational schools or home study can supplement this experience. A good background also can be obtained in the Navy or Merchant Marine. Most training authorities, however, recommend completion of a 4-year apprenticeship. Employers prefer to hire high school graduates and high school or vocational school courses in mathematics, machine shop, mechanical drawing, chemistry, and physics are an asset. Many States and larger cities require stationary engineers to be licensed. Generally a stationary engineer may qualify for 1 of 6 classes of licenses—each specifying the steam pressure or horsepower of the equipment the engineer may operate. A high school diploma may be required for higher class licenses. Generally, applicants must be at least 18, meet the experience requirements for the class of license, and pass a written examination.

Outlook. Despite the increased use of large boilers and auxiliary equipment, employment is expected to change little because of the trend to more powerful and more centralized equipment. Many

openings will arise annually due to replacement needs.

Welders. There are several levels of skill within this occupation and the training time varies accordingly. Some less skilled jobs can be learned in a few months on the job, but generally it takes several years of training and experience to become a skilled welder. For entry to skilled jobs, many employers prefer to hire applicants who have high school or vocational school training in welding. Before being assigned to work where the strength of the weld is a highly critical factor, welders may be required to pass a qualifying examination given by an employer or government agency.

Outlook. Employment is expected to grow faster than the average for all occupations due to expansion of metalworking industries and greater use of welding. There will be very good opportunities except during economic downturns.

Office Occupations

Clerical Occupations

Cashiers. Many cashiers are trained on the job and usually learn their skills while working under the supervision of an experienced cashier. In large firms, training often includes classroom instruction in the use of electronic or computerized cash registers and other phases of the job. Cashier training also is available in many public school vocational programs. The cashier's job affords an opportunity to learn an employer's business and may serve as a steppingstone to a more responsible clerical position or to a supervisory or managerial job.

Outlook. Plentiful job opportunities are expected as employment grows faster than the average for all occupations and replacement needs remain high. However, widespread adoption of automatic checkout systems could slow future growth.

File clerks. Newly hired workers usually are given several weeks or months of on-the-job training to learn the employer's filing system and procedures. High school graduates usually are preferred for beginning jobs. Most employers seek applicants who can type and have some knowledge of office practices. These and other office skills can be learned in high schools, vocational schools, private business schools, and community and junior colleges. In addition, many States and localities sponsor programs which furnish training in basic clerical skills, particularly to prepare underemployed and low-skilled workers for entry level jobs.

Outlook. Employment is expected to grow about as fast as the average for all occupations as business expansion creates a need for more and better record-



keeping. Jobseekers with typing and other secretarial skills should have the best opportunities.

Postal clerks. These workers are trained on the job. Applicants must be at least 18 except for high school graduates, who must be at least 16. Applicants must pass an examination that tests clerical accuracy and the ability to read, do simple arithmetic, and memorize mail sorting systems. Applicants also must pass a physical examination and may have to show that they can handle mail sacks weighing up to 70 pounds.

Outlook. Employment is expected to decline due to falling mail volume and increasing automation of mail processing. However, many openings will result from replacement needs.

Shipping and receiving clerks. High school graduates are preferred for beginning jobs in shipping and receiving departments. English, typing, business arithmetic, and other high school or vocational school business subjects are helpful. Newly hired workers are trained on the job and often begin by filing, checking addresses, attaching labels, and verifying the contents of shipments. After gaining experience, clerks may be assigned more responsible tasks, such as dealing with damaged merchandise.

Outlook. Employment is expected to rise about as

fast as the average for all occupations. The need for these workers will grow as business expansion results in a greater volume of goods to be distributed.

Stock clerks. There are no specific educational requirements for beginning stock clerks, although employers prefer to hire high school graduates. The ability to read and write well and a knowledge of arithmetic are necessary; knowing how to type and file is useful. Newly hired workers learn their skills on the job and usually begin by counting and marking stock. Basic duties usually are learned in a few weeks. Stock clerks who handle jewelry, liquor, or drugs must be bonded (which requires good character references).

Outlook. Employment is expected to increase about as fast as the average for all occupations. Use of computers for inventory control may limit growth somewhat. Some competition for jobs is likely.

Banking Occupations

Bank tellers. These workers learn their skills on the job. Generally, banks prefer to hire high school graduates who have some experience in office work. Prior experience is important because employers look for applicants who have the maturity and tact to deal with customers. High school courses in typing, mathematics, and office machine operation are useful. Because tellers handle large amounts of money, applicants must be bonded and therefore must have good character references.

Outlook. Employment is expected to grow faster than the average for all occupations. High replacement needs and expansion of bank services should create good opportunities for jobs.

Service Occupations

Cleaning and Related Occupations

Building custodians. Most building custodians are trained on the job. A high school diploma is not required, as a rule, but workers should know simple arithmetic and should read well enough to follow written instructions. High school shop courses are helpful because minor plumbing or carpentry may be part of the job. Training in custodial skills is available through government training programs and labor unions.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for these workers will grow as the rising number of office buildings, hospitals, and apartment houses creates an increasing demand for maintenance services. Good opportunities are likely for full-time, part-time, and evening work.

Hotel housekeepers and assistants. Employers prefer to hire applicants who are high school graduates. Experience or training in hotel housekeeping also is helpful in getting a job. Courses in housekeeping are offered by several colleges and universities that have programs in hotel administration, and also by junior colleges, vocational schools, and home study (correspondence) schools. Persons who have degrees in institutional housekeeping management or who have taken courses in this area may have the best opportunities to advance to executive housekeeper.

Outlook. Employment is expected to grow more slowly than the average for all occupations. Opportunities will be best in newly built hotels and motels.

Pest controllers. Most begin as helpers to experienced pest controllers and can do routine pest control work after 2 or 3 months of on-the-job training. About 30 States require pest controllers to be licensed. In most cases, the license is only for registration, but a few States require applicants to pass a written examination. The U.S. Environmental Protection Agency requires pest controllers to be certified. The requirements for certification vary from State to State. Employers generally prefer to hire high school graduates who are licensed to drive.

Outlook. Employment is expected to grow faster than the average for all occupations as efforts increase to control our continually growing pest population.

Food Service Occupations

Bartenders. Most bartenders learn their trade on the job. A high school diploma is not required. Experience as a bartender's helper, dining room attendant, waiter, or waitress is good training. Generally, bartenders must be at least 21 years old; some employers prefer persons who are 25 or older. Some States require bartenders to have health certificates assuring that they are free from contagious diseases. In some instances, bartenders must be bonded.

Outlook. Employment is expected to increase about as fast as the average for all occupations. More bartenders will be needed as new restaurants, hotels, and bars open. Most favorable opportunities will be in States that have recently liberalized their drinking laws.

Cooks and chefs. Most cooks acquire their skills on the job as kitchen helpers, although cooks increasingly have high school or post-high school training in food preparation. A few cooks and chefs are trained as apprentices under trade union contracts or employee training programs conducted by large hotels and restaurants. A high school diploma is not required for most beginning jobs; however, employers usually prefer high school graduates and appli-

cants for apprenticeships must be graduates. A few private schools specialize in 2- to 3-year training courses for cooks and chefs. The Armed Forces also are a good source of training and experience in food service. Persons who wish to become chefs may find courses in business administration helpful since chefs often are responsible for directing the operation of their kitchens, including purchasing supplies, planning menus, and supervising kitchen staff. Most States require cooks and chefs to have health certificates showing that they are free of contagious diseases.

Outlook. Employment is expected to increase faster than the average for all occupations as population grows and as people eat out more often. Most starting jobs will be in small restaurants, school cafeterias, and other eating places where food preparation is simple.

Dining room attendants and dishwashers. These occupations can be learned on the job with very little formal training. A high school diploma is not required, but States laws often require dining room attendants and dishwashers to obtain health certificates showing that they are free of contagious diseases.

Outlook. Job openings are expected to be plentiful due to high turnover and substantial employment growth. Students will have many opportunities for part-time jobs.

Food counter workers. Most counter workers learn their skills on the job. For counter jobs that require totaling bills and making change, employers prefer persons who are good in arithmetic and have attended high school. A diploma generally is not necessary. Managers of fast-food restaurants often hire high school students as part-time counter workers. State laws often require counter workers to obtain health certificates showing that they are free of contagious diseases.

Outlook. Employment is expected to grow faster than the average for all occupations as people eat out more often. Job openings will be plentiful.

Meatcutters. Although many learn their skills informally on the job, most meatcutters complete a 2- to 3-year apprenticeship program. At the end of the training, apprentices are given a meatcutting test which their employers observe. Employers prefer high school graduates. Courses in business arithmetic are helpful in weighing and pricing meat and in making change. Some States require meatcutters to have health certificates showing that they are free of contagious diseases.

Outlook. Employment is expected to decline as the practice of cutting and wrapping meat at one location for several stores limits growth.

Waiters and waitresses. Although most waiters and waitresses learn their skills on the job, some attend the special training courses that are offered by public and private vocational schools and restaurant associations. Employers generally prefer applicants who have had at least 2 or 3 years of high school, and are good in arithmetic. Expensive restaurants that take pride in the quality of service they provide often hire only experienced waiters and waitresses. Restaurants specializing in food of a foreign country may prefer applicants who speak that country's language. State laws often require waiters and waitresses to obtain health certificates showing that they are free of contagious diseases.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for these workers will grow as people eat out more often. Job openings should be plentiful.

Personal Service Occupations

Barbers. Most States require barbers to be licensed. To obtain a license applicants must have graduated from a State-approved barber school, have completed the eighth grade, pass a physical examination, and be at least 16 years old (in some States 18). Nearly all States require a beginner to take an examination for an apprentice license, and then, after 1 or 2 years of work, take a second examination for a license as registered barber. Many public and private schools and a few vocational schools offer barber training which usually lasts 9 to 12 months. Because most States do not recognize out-of-State training, apprenticeship work, or licenses, persons who wish to become barbers should review the laws of the State in which they wish to work before entering barber school.

Outlook. Employment is expected to change little; most openings will result from replacement needs. Opportunities will be better for hair stylists than for conventional barbers.

Bellhops and bell captains. Bellhops are trained on the job. Many hotels promote elevator operators to these jobs. Although a high school diploma is not required, it improves chances for promotion to bell captain or to front office clerk. Opportunities for advancement to bell captain are limited, however.

Outlook. Little change in employment is expected as the increasing popularity of economy motels limits growth. Opportunities will be best in motels, small hotels, and resort areas open only part of the year.

Cosmetologists. All States require cosmetologists to be licensed. Most States require applicants for a license to pass a physical examination, be at least 16 years old, and have completed the 10th grade. Suc-

Successful completion of a State-approved cosmetology course is appropriate preparation for taking a State licensing examination. In some States completion of an apprenticeship program can substitute for graduation from cosmetology school but few cosmetologists learn their skills this way. Both public and private vocational schools offer training in cosmetology. A daytime course usually takes 9 months to 1 year; an evening course takes longer. An apprenticeship generally lasts 1 or 2 years.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for these workers will grow as the demand for beauty shop services rises. Good opportunities will be available for both newcomers and experienced cosmetologists, including those seeking part-time work.

Other Service Occupations

Private household workers. Most jobs require no formal education. Instead, the ability to cook, sew, wash and iron, clean house, and care for children is important. Many of the necessary skills are learned in the home; more advanced skills can be learned in home economics courses in high schools, vocational schools, and through government and private training programs.

Outlook. Despite an expected decline in employment, replacement needs will create many job openings. Job opportunities for domestic workers will be plentiful.

Guards. Employers prefer high school graduates; applicants who have not completed high school may be tested for their ability to read, write, and follow written and oral instructions. Police experience gained in the Armed Forces or in State or local police departments is helpful. Most newly hired guards receive on-the-job training combined with formal instruction that covers areas such as the use of firearms, first aid, emergency procedures, and security problems.

Outlook. Employment is expected to grow faster than the average for all occupations due to increased concern over crime and vandalism. Best opportunities will be in guard and security agencies and in night-shift jobs.

Mail carriers. These workers are trained on the job. Applicants must be at least 18 except for high school graduates, who must be at least 16. They also must pass an examination that tests clerical accuracy and the ability to read, do simple arithmetic, and memorize mail sorting systems. If the job involves driving, an applicant must have a driver's license and pass a road test. Applicants also must pass a physical examination and may be asked to

show that they can handle mail sacks weighing up to 70 pounds.

Outlook. Little change in employment is expected due to anticipated cutbacks in the frequency of mail deliveries. Some openings will result from replacement needs, primarily in metropolitan areas.

Sales Occupations

Gasoline service station attendants. These workers are trained on the job. A high school diploma usually is not required and students often are hired for these jobs. Attendants who wish to become station managers need a diploma, however, as it is required for participation in the service station management programs conducted by oil companies. Applicants for attendant jobs should have a driver's license, a general understanding of how an automobile works, and some sales ability.

Outlook. Employment is expected to increase more slowly than the average for all occupations as trends toward cars with better gas mileage and self-service gas stations limit growth. Nevertheless, replacement needs will create many job openings.



Models. The most important asset for a model is a distinctive and attractive physical appearance. In addition, models usually must meet strict height and weight limitations. There are no educational requirements for models; however, courses in drama, dancing, art, and fashion design are useful because they can develop poise and a sense of style. Many sales jobs in department stores provide useful experience in selecting and coordinating fashions, experimenting with makeup and, occasionally, modeling.

Outlook. Employment is expected to grow faster than the average for all occupations due to rising advertising expenditures and greater sales of clothing and accessories. Nevertheless, because this occupation is so small and the glamour of modeling attracts many persons, competition for openings should be keen.

Retail trade sales workers. Most sales workers learn their skills on the job. In large stores, training programs usually begin with several days of classroom instruction, which are followed by on-the-job training under the supervision of an experienced worker. In small stores, an experienced worker or, in some cases, the proprietor trains new sales workers. Employers prefer to hire high school graduates, and courses in commercial arithmetic and merchandising provide a good background. Thousands of high schools also offer distributive education programs that allow students to work part time at local stores while taking courses in merchandising, accounting, and other aspects of retailing. Some of these programs are intended for adults as well, and offer training for persons beginning their careers or seeking advancement.

Outlook. Employment is expected to grow more slowly than the average for all occupations; however, high turnover should create excellent opportunities for full-time, part-time, and temporary workers.

Route drivers. Although some large companies have classes in sales techniques, most route drivers are trained on the job. Employers generally prefer applicants who are high school graduates and have good driving records. Most States require route drivers to have a chauffeur's license.

Outlook. Employment is expected to change little, but several thousand openings will result annually from replacement needs. Applicants with sales experience and good driving records seeking wholesale routes will have the best opportunities.

Construction Occupations

Bricklayers, stonemasons, and marblers. Most bricklayers learn their trade on the job, usually in 3 to 5 years. But some bricklayers and most stonemasons and marblers learn their skills through a

3-year apprenticeship program that combines on-the-job training with classroom instruction. A high school diploma or its equivalent is usually preferred by employers for entry into apprenticeship programs. Courses in blueprint reading and shop provide a useful background.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More of these workers will be needed as new homes, factories, offices, and other structures are built. Job openings should be plentiful except during economic downturns.

Carpenters. The recommended way to learn this trade is to complete a 4-year apprenticeship. Most workers learn on the job, however, often by beginning as a helper to experienced carpenters and gradually acquiring skills. It takes much longer to become a skilled carpenter in this way than it does through an apprenticeship. Some knowledge of the trade also may be obtained through vocational school courses in carpentry, shop, mechanical drawing, and mathematics. Employers generally prefer to hire applicants who are high school graduates but a diploma is not required.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More carpenters will be needed to build new structures and alter and maintain old ones. Job opportunities will be plentiful except during economic downturns.

Cement masons and terrazzo workers. Most learn their trade informally on the job in 2 to 3 years. Others complete a 2- or 3-year apprenticeship. Employers prefer to hire high school graduates; courses in mathematics and mechanical drawing provide a useful background.

Outlook. Employment is expected to grow much faster than the average for all occupations due to increasing construction activity and greater use of concrete as a building material. Job opportunities should be favorable.

Construction laborers. Most laborers are trained on the job as this work does not require specific skills. Generally, applicants must be at least 18 years old and in good physical condition. An experienced construction laborer can advance to carpenter, bricklayer, cement mason, or other craft occupation.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More laborers will be needed as construction activities increase. Job openings should be plentiful except during economic downturns.

Drywall installers and finishers. These workers usually start as helpers and learn their skills on the job in 2 to 3 years. Some employers, in cooperation



with unions, offer classroom instruction in subjects such as tool use and care and safety to supplement on-the-job training. High school graduates are preferred, but applicants who have less education frequently are hired.

Outlook. Employment is expected to grow much faster than the average for all occupations as dry-wall is used increasingly in place of plaster. Most job openings will be in metropolitan areas.

Floor covering installers. Most of these workers learn their skills on the job, usually beginning as helpers to experienced workers. Others qualify through 2- to 4-year apprenticeship programs. Individuals also may learn the basic skills as part of an apprenticeship in carpentry, tilesetting, bricklaying, or stone and marblesetting. Employers prefer to hire high school or vocational school graduates, and courses in general mathematics and shop may be helpful. Applicants for apprenticeships generally must have a high school diploma.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for these workers will grow with expanding construction activity and the widespread use of resilient floor coverings and carpeting. Opportunities will be best for persons who are able to install carpeting and resilient flooring.

Insulation workers. The majority learn their trade on the job. Others learn through a 4-year "improvement" program that is similar to an apprenticeship. A few insulation workers pick up their skills while working in another trade or in a manufacturing plant where applying insulation is part of their job. Employers prefer high school graduates who are licensed to drive. High school or vocational school courses in blueprint reading and shop mathematics are helpful.

Outlook. Employment is expected to increase much faster than the average for all occupations as energy-saving insulation is installed in homes and businesses. Best opportunities will be in metropolitan areas.

Ironworkers (structural, ornamental, and reinforcing ironworkers; riggers; and machine movers). Most learn their skills on the job; however, completion of a 3-year apprenticeship program is recommended. Employers generally prefer high school graduates. Courses in blueprint reading, drafting, and mathematics are helpful. The job requires agility, a good sense of balance, and above average strength.

Outlook. Employment is expected to increase much faster than the average for all occupations due to growing use of structural steel. Job oppor-

tunities are most abundant during the early spring.

Lathers. Although many lathers acquire their skills informally on the job, completion of an apprenticeship is recommended. Depending on the local union operating the program, apprenticeships last 2, 3, or 4 years; some include classroom instruction in related subjects. Employers generally prefer high school graduates, and a diploma is required for an apprenticeship. Courses in business mathematics and shop are useful.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More lathers will be needed to construct some of the more expensive new buildings and to renovate older buildings.

Operating engineers (construction machinery operators). Completion of a 3-year apprenticeship program including related classroom instruction is recommended. Learning to operate a variety of machines through apprenticeship or, in some instances, private training schools usually results in better job opportunities. Some operating engineers learn their skills on the job, starting as helpers or oilers and then progressing from operating light equipment to highly complex construction machinery. A few individuals learn their skills while serving in the Armed Forces. Most employers prefer high school graduates; a diploma may be required for entry into apprenticeship programs. Courses in automobile mechanics are helpful.

Outlook. Employment is expected to grow faster than the average for all occupations as construction of more factories, mass transit systems, office buildings, and other structures increases demand for operating engineers. Job opportunities should be plentiful.

Painters and paperhangers. Although completion of a 3-year apprenticeship is recommended, apprenticeship opportunities are very limited. Informal on-the-job training is available through local contractors, however. A high school education is preferred but not essential. Manual dexterity and good color sense are important assets. Painters and paperhangers should be free of allergies to paint and chemicals used on the job.

Outlook. Employment of painters is expected to grow about as fast as the average for all occupations. More painters will be needed to paint new structures and repaint old ones. The growing popularity of wallpaper and vinyl wallcovering will increase the demand for paperhangers. Employment of these workers is expected to grow much faster than the average for all occupations.

Plasterers. A 3- to 4-year apprenticeship is the recommended way to learn the trade. Many plasterers

learn the trade on the job, however, by working as plasterers' helpers or laborers. Employers generally prefer to hire high school graduates. Courses in mathematics, mechanical drawing, and shop are useful.

Outlook. Little change in employment is expected as drywall materials continue to be used instead of plaster. Some openings will result from replacement needs.

Roofers. The majority of roofers begin as helpers and learn their skills on the job. Completion of a 3-year apprenticeship is recommended, however. Employers prefer high school graduates and courses in mechanical drawing and basic mathematics are helpful.

Outlook. Employment is expected to grow faster than the average for all occupations due to increasing construction activity and the need to repair roofs on older buildings. Demand for dampproofing and waterproofing also will add to the need for roofers. Jobs will be easiest to find in the warm-weather months.

Tilesetters. The best way to learn this trade is through a 3-year apprenticeship program, but many workers acquire their skills on the job, working as helpers. When hiring apprentices or helpers, employers usually prefer high school or vocational school graduates who have had courses in mathematics, mechanical drawing, and shop. Good physical condition, manual dexterity, and a good sense of color harmony also are important.

Outlook. Employment is expected to increase about as fast as the average for all occupations. The need for tilesetters will grow due to the trend toward having two or more tiled bathrooms in houses and apartments.

Occupations in Transportation Activities

Merchant Marine Occupations

Merchant marine officers. Candidates must either have acquired at least 3 years of sea experience in the Coast Guard or Navy, or have graduated from the U.S. Merchant Marine Academy, from one of five State merchant marine academies, or from a trade union training program. Candidates also must pass a Coast Guard examination to obtain a license. Usually, applicants who have sea experience but are not graduates of academies must obtain training to pass the examination. A high school diploma is not required.

Outlook. Employment is expected to grow more slowly than the average for all occupations as the size of the Nation's fleet remains fairly constant.

Opportunities will be best for graduates of maritime union training programs.

Merchant marine sailors. Most sailors learn on the job, although previous sea experience in the Coast Guard or Navy is helpful. Graduation from high school is not required. Applicants must obtain a doctor's certificate stating that they are in excellent health, a letter from an employer stating that they will be hired if a job becomes available, and special identification papers, "merchant mariner's documents," from the Coast Guard. Several training programs exist to help experienced sailors upgrade their skills, but only the school operated by the Seafarer's International Union of North America trains inexperienced sailors.

Outlook. Employment is expected to decline as smaller crews are needed to operate new ships. Keen competition is likely for those openings created by replacement needs.

Railroad Occupations

Shop trades. Completing a 3- to 4-year apprenticeship program is the most common way to enter shop trades, although some helpers and laborers are upgraded to these jobs. A high school diploma is preferred but not required. Shop training in high school or vocational school is an advantage. Automobile repair and machining courses are useful for machinists. Courses in electricity and physics will help applicants who want jobs as electrical workers.

Outlook. Employment is expected to decline as shop efficiency increases and as railroad cars are more easily maintained. Openings are likely to be limited to replacement needs.

Signal department workers. These workers are trained on the job, beginning as helpers to experienced workers. After 60 to 90 days of training, they may advance to assistants; after 2 to 4 years' additional training and experience, they may be promoted to signal installers or maintainers. Railroads prefer applicants who are high school or vocational school graduates and have had courses in blueprint reading, electricity, or electronics.

Outlook. Employment is expected to change little as new signal systems require less maintenance. Some openings will arise due to replacement needs.

Station agents. These workers rise from the ranks of other railroad occupations. Experienced telegraphers, telephoners, tower operators, and clerks may advance to jobs as agents in small stations and may be promoted to larger stations as they gain seniority.

Outlook. Employment is expected to decline as centrally located stations handle more customer

orders and billings, and as mobile agents service smaller stations.

Telegraphers, telephoners, and tower operators. These jobs usually are filled from the ranks of clerical workers according to seniority provisions. Upon promotion, workers receive on-the-job training that covers operating rules, train orders, and station operations. Before the promotion is final, workers must pass examinations on train operating rules and show that they can use all the equipment. A high school diploma generally is preferred and may be required by some railroads.

Outlook. Employment is expected to decline due to wider use of mechanized yard operations, centralized traffic control, and automatic signaling. A limited number of openings will result from replacement needs.

Track workers. Most workers are trained on the job in about 2 years. A high school diploma is not required but applicants should be able to read and write. The ability to perform heavy work is essential.

Outlook. Employment is expected to change little as railroads use laborsaving machines and install improved track control systems that require less track. Most openings will be due to replacement needs.

Driving Occupations

Intercity busdrivers. These workers are trained on the job. Most companies conduct 2- to 8-week training programs for new employees that include driving and classroom instruction. Minimum qualifications established by the U.S. Department of Transportation require intercity busdrivers to be at least 21, pass a physical examination, and pass a written test on motor vehicle regulations. Most States require a chauffeur's license. Bus companies generally have even higher requirements. Most prefer applicants who are at least 25 years old; some prefer those who have truck or bus driving experience. A high school diploma is preferred but not required. High school driver training is useful.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More busdrivers will be needed to keep pace with the expected moderate increase in bus travel. Keen competition is likely for these job openings.

Local transit busdrivers. New drivers receive several weeks of classroom and driving instruction in which they learn company rules, safety regulations, how to keep records, and how to deal with passengers. Applicants must be at least 21, have a chauffeur's license, and have good eyesight — with or without glasses. Most employers require applicants to pass

a physical examination and a written test. A good driving record is essential. A high school diploma is not required but is preferred by many employers.

Outlook. Employment is expected to grow about as fast as the average for all occupations. More busdrivers will be needed as many cities improve their local bus service.

Local truckdrivers. New drivers usually are trained on the job. Many drivers begin by working as freight handlers on the trucking company's loading dock. In most States, applicants must have a chauffeur's license. Employers prefer to hire individuals who have good driving records. The amount of driving experience required often depends on the size of truck to be driven and value of the cargo. A high school diploma is not required.

Outlook. Employment is expected to increase faster than the average for all occupations due to the rise in the amount of freight to be distributed. Opportunities will be best for applicants with good driving records.

Long-distance truckdrivers. Minimum qualifications set by the U.S. Department of Transportation require drivers to be at least 21, pass a physical examination, and pass a written test on motor carrier safety regulations. Most States require drivers to have a chauffeur's license. Individual trucking companies may have even higher standards. Many companies specify height and weight requirements for drivers and some hire only applicants who have several years' experience driving trucks. Driver training courses in high school or in a private driving school are good preparation, but they do not assure a job. Most truckdrivers start as freight handler at a trucking company's loading dock, advance to local truckdriver, and then to long-distance driver.

Outlook. Employment is expected to grow more slowly than the average for all occupations. Stiff competition is likely for available jobs in this high-paying occupation.

Parking attendants. These workers are trained on the job. Some employers offer training, ranging from a few hours to a week, that includes a review of proper driving techniques and an outline of company policy on record keeping procedures and damage claims. Applicants must have a driver's license and be able to drive all types of cars. The ability to keep records of claim tickets, compute parking charges, and make change also is important. Generally, employers prefer high school graduates.

Outlook. Employment is expected to grow more slowly than the average for all occupations as the trend to self-parking systems continues. The high turnover rate, however, will create many job opportunities, especially in large commercial parking facilities in urban areas.

Taxicab drivers. In most cities taxi drivers must have a chauffeur's license and pass a written test on taxicab and traffic regulations to obtain a special license issued by the local police or safety department, or Public Utilities Commission. Some companies teach drivers taxicab regulations and the location of streets. A large number of companies hire only applicants who are at least 21 and some require drivers to be 25 or older.

Outlook. Although employment is expected to change little, high turnover should create numerous job opportunities.

Mechanics and Repairers

Telephone Craft Occupations

Central office craft occupations. Trainee jobs generally are filled by employees already with the company, such as telephone operators or line installers. Occasionally, workers are hired from outside. A high school diploma is not required but a basic knowledge of electricity or electronics is helpful. Telephone training in the Armed Forces is good preparation.

New craft workers receive both classroom instruction and on-the-job training. Some vocational schools, particularly those in rural areas served by small independent telephone companies, also offer training. A few people learn these crafts through apprenticeship programs designed by State employment agencies in conjunction with local telephone companies. Because electrical wires usually are color coded, applicants must not be color blind.

Outlook. Employment is expected to increase about as fast as the average for all occupations. More of these workers will be needed as new telephone systems are installed and existing ones maintained. Most job openings will be in metropolitan areas.

Central office equipment installers. These workers learn their skills on the job. New employees attend classes the first few weeks to learn basic installation and then begin on-the-job training. It usually takes several years to become a skilled installer, and training continues throughout an installer's career to improve skills and teach new techniques. A high school diploma generally is preferred, and courses in blueprint reading and electronic theory are helpful. Because electrical wires are color coded, applicants must not be color blind.

Outlook. Employment is expected to decline as most new central office equipment is manufactured in components that come partially assembled.

Line installers and cable splicers. These workers usually are trained on the job. Classrooms are



equipped with actual telephone apparatus, including poles and other fixtures to simulate working conditions. After several weeks, trainees generally are assigned to a crew for on-the-job training under a line supervisor. Some small independent telephone companies, particularly in rural areas, rely on local vocational and technical schools for classroom training. A few 4-year apprenticeships also are available in which State employment agencies provide classroom training. Training in installing telephone systems while in the Armed Forces is helpful. A high school diploma is not required. Because the job is strenuous, applicants usually are given physical examinations.

Outlook. Little change in employment is expected as technological improvements limit growth. Job openings may be found more easily in small cities.

Telephone and PBX installers and repairers. These workers are trained on the job. Telephone companies provide several weeks of classroom instruction supplemented by on-the-job training. Many small independent telephone companies, particularly in rural areas, rely on local vocational and technical schools to train workers. A few 4-year apprenticeships also are available in which State employment agencies provide classroom training. Because telephone wires are color coded, applicants must not be color blind. Physical examinations are sometimes required, and applicants may have to pass a test to determine their aptitude for the job. Often trainees are chosen from current telephone company employees. A high school diploma is preferred but not required.

Outlook. Employment is expected to increase

about as fast as the average for all occupations. More of these workers will be needed as the demand for telephones and PBX and Centrex systems grows.

Other Mechanics and Repairers

Automobile body repairers. Generally 3 to 4 years of on-the-job training are necessary to learn all phases of automobile body repair. Most repairers learn informally on the job, but completion of a 3- or 4-year apprenticeship that combines on-the-job training with classroom instruction in safety procedures, shop mathematics, and business is recommended. High school graduation, although not required, is considered an asset. High school or vocational school courses in automobile body repair or automobile mechanics are helpful.

Outlook. Employment is expected to increase about as fast as the average for all occupations. More repairers will be needed as the number of vehicles in use grows.

Automobile mechanics. Most automobile mechanics learn their trade through 3 to 4 years of on-the-job experience, but additional time may be needed to learn a difficult specialty such as automatic transmission repair. Training authorities usually recommend completion of a 3- or 4-year apprenticeship program. Automobile mechanic training received while in the Armed Forces is good preparation. High school or vocational school courses in science, mathematics, automobile repair, and machine shop also are useful. A high school diploma is preferred but not required.

Outlook. Employment is expected to increase about as fast as the average for all occupations. More mechanics will be needed as the number of vehicles in use grows. Job opportunities will be plentiful.

Boat-engine mechanics. Most mechanics learn on the job. Generally 2 to 3 years of experience are required to become skilled in repairing both outboard and inboard motors. A high school diploma is preferred by employers but is not required. High school or vocational school courses in small engine repair, auto mechanics, and machine shop are helpful.

Outlook. Employment is expected to grow about as fast as the average for all occupations. Job opportunities will be particularly favorable for mechanics who have a knowledge of electricity and electronics.

Bowling-pin-machine mechanics. These workers usually start as assistant mechanics or pinchasers and learn their skills on the job. Bowling alleys

sometimes send their mechanics to training seminars conducted by companies that manufacture pin-setters. It usually takes 1 to 2 years of experience to learn the job thoroughly. Employers prefer to hire high school graduates. High school courses in electronics, blueprint reading, machine repair, or basic mechanics are helpful.

Outlook. Employment is expected to increase more slowly than the average for all occupations due to limited growth in the number of bowling facilities.

Diesel mechanics. Most workers learn their skills informally on the job or through a 3- to 4- year apprenticeship program. Trade and technical school courses in diesel engine maintenance and experience repairing vehicles in the Armed Forces or as a hobby are useful preparation. Employers prefer high school graduates. Courses in blueprint reading, automobile repair, and machine shop are helpful, as are science and mathematics. Good physical condition is important because mechanics often have to lift heavy engine parts.

Outlook. Employment is expected to grow faster than the average for all occupations as use of diesel engines expands.

Farm equipment mechanics. Most begin as helpers and learn their skills on the job. Employers generally prefer high school graduates who have a farm background. Usually, at least 3 years of on-the-job experience are necessary before a person is able to handle all types of repairs. Some mechanics complete a 3- to 4-year apprenticeship program, while others learn through a vocational program. High school courses in automobile repair, machine shop, science, and mathematics are helpful.

Outlook. Employment is expected to increase about as fast as the average for all occupations. Additional mechanics will be needed as more technically advanced farm equipment requires greater maintenance. Best opportunities will be for persons familiar with farm machinery.

Industrial machinery repairers. Most begin as helpers and rotate from job to job for several years. Others learn their trade through 4-year apprenticeship programs. A high school diploma is not required, but high school or vocational school courses in mathematics and machine shop may be helpful. Good physical condition and agility are necessary because repairers sometimes have to lift heavy equipment or climb to reach large machines.

Outlook. Employment is expected to increase much faster than the average for all occupations as more repairers will be needed to maintain the increasing amount of machinery used in manufacturing, coal mining, oil exploration, and other industries.

Locksmiths. Most learn their trade on the job. It usually takes 4 years to become skilled in most types of jobs. One- or two-year training programs are available in a few public and private vocational schools. Additional training is necessary to learn to service and install electronic security systems. A high school diploma is preferred by employers but is not required. Some cities require locksmiths to be licensed. Generally, an applicant is fingerprinted and charged a fee but no examination is given.

Outlook. Employment is expected to grow faster than the average for all occupations as the public becomes more security conscious. Opportunities will be favorable for persons able to install and service electronic security systems.

Motorcycle mechanics. Most motorcycle mechanics learn their trade on the job. Generally, 2 to 3 years of on-the-job training are necessary to become skilled in all aspects of motorcycle repair. A high school diploma is not required but is preferred by many employers. Many employers will hire trainees who have mechanical aptitude or who exhibit a genuine interest in motorcycles and in learning the work. Courses in small engine repair are helpful, as

are courses in automobile mechanics, science, and mathematics.

Outlook. Employment is expected to grow much faster than the average for all occupations due to the rising number of motorcycles. Opportunities will be best in larger dealerships.

Shoe repairers. These workers generally start as helpers and are trained on the job in shoe repair shops. It usually takes about 2 years to learn all aspects of the job. Some repairers learn the trade in vocational school but additional training under an experienced shoe repairer generally is helpful. A high school diploma is not required. Business courses are useful because many shoe repairers own their own shops. Some high schools and junior colleges offer courses in shoe repair.

Outlook. Despite little change in employment, job prospects should be very good because few people are attracted to this occupation. Opportunities will be especially good for experienced repairers who wish to open their own shop.

Television and radio service technicians. Employers usually hire persons who have had formal train-



ing in electronics while in high school, vocational school, technical school, or in the Armed Forces. Generally, 2 to 4 years of on-the-job training are necessary to become skilled in most types of repair work. Persons who do not have formal training but have an aptitude for the work or have worked with radio and television sets as a hobby may be hired as helpers. A high school diploma is preferred but not required.

Outlook. Employment is expected to grow faster than the average for all occupations as the number of home entertainment products increases. Greater use of electronic products such as closed-circuit television, two-way radios, calculators, and home appliances also will lead to job openings.

Truck mechanics and bus mechanics. Most learn their skills on the job in 3 to 4 years, but completion of a 4-year apprenticeship program is recommended. A high school diploma is preferred by employers and strongly recommended for applicants for apprenticeships. High school or vocational school courses in automobile repair and mathematics provide good preparation. For some jobs that require driving, mechanics must have a chauffeur's license. Some employers also may require mechanics who drive to meet the qualifications of age, eyesight, and physical condition established by the U.S. Department of Transportation.

Outlook. Employment of truck mechanics is expected to grow about as fast as the average for all occupations. More mechanics will be needed due to the increasing use of trucks for transporting freight. Employment of bus mechanics is expected to increase more slowly than average.

Vending machine mechanics. Most mechanics learn their trade while working as general shop helpers or vending machine route drivers. Usually, 1 to 2 years of on-the-job training, sometimes including attendance at manufacturer-sponsored training sessions, are required to become a skilled mechanic. A high school diploma is not required, but high school or vocational school courses in electricity, refrigeration, and vending machine repair are helpful. A commercial driver's license and a good driving record are necessary.

Outlook. Although some growth will result from the greater number of vending machines, employment is expected to increase more slowly than the average for all occupations.

Watch repairers. Most learn their trade through 18- to 24-month courses offered by watch repair schools. Others learn informally on the job in about 3 years or through a 3- to 4-year apprenticeship. A high school diploma is preferred. A few States require watch repairers to be licensed; applicants must pass a written test and a bench examination.

Business courses may be useful to individuals who wish to open their own watch repair shop.

Outlook. Although employment is expected to grow more slowly than the average for all occupations, trained workers should find jobs readily available. Opportunities should be good for persons trained in repairing electronic watches.

Health Occupations

Medical Technologist, Technician, and Assistant Occupations

Respiratory therapy workers. There are three levels of workers—therapists, technicians, and assistants. Assistants are trained on the job and learn their skills in about 6 weeks. A high school diploma is not required but may be preferred by some employers. Formal training beyond high school is required for technicians and therapists. Programs are offered in colleges and universities, junior colleges, and hospitals. Generally, training programs for technicians last 12 months while programs for therapists last 18 to 24 months.

Outlook. Employment is expected to grow much faster than the average for all occupations due to new applications of respiratory therapy in treating diseases. Job opportunities should be good.

Nursing Occupations

Licensed practical nurses. All States require applicants for licenses as practical nurses to complete a State-approved course in practical nursing and to pass an examination. Educational requirements for enrollment in these courses vary by State and range from completion of eighth or ninth grade to high school graduation. Generally, the course lasts 1 year and is given in junior colleges, local hospitals, health agencies, and vocational schools.

Outlook. Employment is expected to grow much faster than the average for all occupations as population grows and health insurance plans expand. Job prospects are very good.

Nursing aides, orderlies, and attendants. Although some employers prefer high school graduates, a diploma is not required. Training usually is acquired on the job, often in combination with classroom instruction covering areas such as the correct procedures for changing bed linens, taking temperatures, and giving back rubs. Training in these areas also is offered in public and private vocational schools.

Outlook. Employment is expected to grow faster than the average for all occupations due to increased demand for medical care. Most job openings will be in nursing homes, convalescent homes, and other long-term care facilities.

Therapy and Rehabilitation Occupations

Physical therapist assistants and aides. Physical therapist aides train on the job. The length and content of these training programs depend on the difficulty of the duties aides are expected to perform and the needs of the patients. Employers generally prefer high school graduates who have experience working as hospital nursing aides. High school courses in health, biology, psychology, and physical education are useful for both aides and assistants. (Physical therapist assistants must have completed 2 years of training beyond high school.)

Outlook. Employment is expected to grow faster than the average for all occupations due to expanding physical therapy services. Job opportunities for graduates of approved programs should be excellent.

Social Service Occupations

Homemaker-home health aides. Homemaker-home health aides need to be able to read and write but high school graduation generally is not required. High school home economics courses, such as meal planning and family living, are helpful, particularly for young persons who have little experience in homemaking. Some employers hire only experienced nursing aides for jobs as homemaker-home health aides, and require at least a year's experience as a nursing aide in a hospital or nursing home.

Outlook. Employment is expected to increase much faster than the average for all occupations due to growing public awareness of the availability of home care services and probable changes in Federal legislation. Job opportunities should be plentiful.

Social service aides. Social service aides are trained on the job. These workers have a wide range of educational backgrounds, from elementary school to college. An aide's level of responsibility usually is related to education. For example, persons who have a grade school education may enter the field in clerical positions, while those who have a college degree may assume some duties normally performed by social workers. In hiring, employers consider an applicant's desire to help people and his or her ability to communicate with community agencies and clients. An individual's potential for advancement and need for work also may be considered.

Outlook. Employment is expected to grow faster than the average for all occupations as social welfare programs expand and as aides perform tasks formerly handled by professional personnel. Many opportunities will exist for part-time work.

Art, Design, and Communications-Related Occupations

Performing Artists

Dancers. Serious training at a dance school or through private lessons should begin by age 12, especially for ballet dancers. Training and practice continue throughout a dancer's career. Many colleges and universities offer dance instruction, but a college education is not required for employment as a professional dancer.

Outlook. Although employment is expected to grow about as fast as the average for all occupations, applicants are likely to face keen competition for openings. Teaching offers the best opportunities.

Musicians. Studying an instrument, either through school or private lessons, should begin at an early age. More advanced training can be acquired through further study under an accomplished musician, in a college or university which has a strong music program, or in a music conservatory.

Outlook. Employment is expected to grow as fast as the average for all occupations. However, job competition will be keen except for the most highly skilled performers.

Singers. As a rule, intensive voice training should not begin until after the individual has matured physically. Voice training can be obtained through private lessons or in a music conservatory or department of music in a college or university. A background in music theory and history is helpful for persons interested in singing professionally, although formal voice training is not essential for a successful career in popular music.

Outlook. Although employment growth is expected to be about as fast as the average for all occupations, competition for long-term jobs is likely to be keen. There will be some opportunities for part-time and short-term jobs in opera and concert stage productions, and in movies, the theater, nightclubs, and television commercials.

Design Occupations

Floral designers. Although there are no minimum educational requirements, most employers prefer high school graduates. Training usually takes place on the job. However, an increasing number of these workers receive training by attending adult educational programs, junior colleges, or commercial floral design schools. Manual dexterity and a good sense of color, balance, and proportion are primary qualifications. High school courses in business arithmetic, book-keeping, selling techniques, and other business subjects are helpful.

Outlook. Expected increases in sales of flowers and floral arrangements will cause employment to grow faster than the average for all occupations. Employment is sensitive to changes in the economy.

Ordering Occupational Outlook Handbook Reprints

There are 42 reprints from the *Occupational Outlook Handbook, 1978-79 Edition*, available for order. Each reprint contains a group of related occupational and industrial statements. For example, reprint 1955-16, *Air and Water Transportation Occupations*, includes statements on air traffic controllers, airplane mechanics, airplane pilots, the civil aviation industry, flight attendants, the merchant marine industry, merchant marine officers, merchant marine sailors, and reservation, ticket, and passenger agents. A list of all reprints follows. A flyer which cross-references all of the *Occupational Outlook Handbook* occupations and industries to the reprints in which they appear may be obtained by using the reprint order form on the back page of this leaflet.

Occupational Outlook Reprints, 1978-79 Edition

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Furniture upholsters	26	Social service aides	32
Gasoline service station attendants	24	Station agents	17
Guards	11	Stationary engineers	4
Homemaker-home health aides	32	Stock clerks	5
Hotel housekeepers and assistants	9	Taxicab drivers	18
Industrial machinery repairers	4	Telegraphers, telephoners, and tower operators	17
Inspectors (manufacturing)	4	Telephone and PBX installers and repairers	23
Insulation workers	15	Television and radio service technicians	26
Licensed practical nurses	28	Tilesetters	15
Line installers and cable splicers	23	Track workers	17
Local transit busdrivers	18	Truck mechanics and bus mechanics	24
Local truckdrivers	18	Vending machine mechanics	25
Locksmiths	26	Waiters and waitresses	10
Long-distance truckdrivers	18	Watch repairers	26
Machine tool operators	2	Welders	2
Mail carriers	5		
Meatcutters	10		
Merchant marine officers	16		

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