Whether you’re planning a pick-up football game or planning your future, avoiding tobacco, alcohol, and other drugs will ensure that you’ll be able to follow through on those plans. By following your doctor’s orders with regard to prescriptions and being careful with over-the-counter medications, you can maintain the physical, mental/emotional, and social health you need to set and meet your goals.
Before you begin the chapter, assess your knowledge, behavior, and attitudes concerning medicines and drugs. Take the Chapter 11 Health Inventory at health.glencoe.com.

**Foldables Study Organizer**

Make this Foldable to help you organize the information on medicines and drugs in Lesson 1. Begin with a sheet of notebook paper.

**Step 1**
Fold the sheet of notebook paper in half along the long axis.

**Step 2**
On the top layer, cut every third line. This will form 10 tabs.

**Step 3**
Label the tabs as shown.

**As You Read**
Under the appropriate tab of your Foldable, write notes and define terms related to medicines and drugs.
Lesson 1

Using Medicines Wisely

Medicines and Drugs

What do you think of when you hear the words medicines and drugs? Many people use the terms interchangeably. However, there is a difference. **Drugs** are substances other than food that change the structure or function of the body or mind. **Medicines** are drugs that are used to treat or prevent diseases and other conditions. All medicines are drugs, but not all drugs are medicines.

**Medicine Safety**

In the United States, the Food and Drug Administration (FDA) is responsible for ensuring that all medicines are safe and effective. The FDA approval process includes the following steps.

1. A potential new medicine is discovered.
2. Researchers conduct experiments to help decide how the new medicine might be used to treat an illness. Early testing is conducted on animals to determine if the medicine has any harmful effects.
3. The FDA reviews the preliminary research and test results. If approved, the new medicine is studied in humans.
4. If the FDA decides that the medicine is safe and effective for its intended use, the FDA approves it.
5. Once approved, the medicine can be made available for physicians to prescribe or for consumers to purchase.

**Quick Write**

List three medicines you have used, and briefly describe the intended use of each. How might the medicines cause harm?

**Learn About...**

- how medicines differ from drugs.
- types of medicines.
- how medicines are used.
- how medicines affect the body.

**Vocabulary**

- drugs
- medicines
- prescription medicines
- over-the-counter (OTC) medicines
- vaccine
- antibiotics
- side effect
- tolerance

*Medicines come in many different forms. What medicine did you take the last time you had a cold?*
Prescription Medicines

Some medicines are very strong and potentially harmful, so doctors must write special orders for them. These prescription medicines are medicines that can be sold only with a written order from a physician. Figure 11.1 shows the information that must appear on all prescription medicine labels. Before you take a prescription medicine, read the label carefully and make sure that you are interpreting the instructions correctly.

Over-the-Counter (OTC) Medicines

Have you ever used cough syrup or nasal spray when you had a cold? These over-the-counter (OTC) medicines are medicines that are safe enough to be taken without a written order from a physician. OTC medicines may cause harm if not used as directed.

Potential side effects are listed on medicine container labels. Why should you read the label carefully before taking any medication?
OTC medicines are available at pharmacies, supermarkets, and other stores that sell medicine. Always check with an adult before using any OTC or other medicine. Be sure to read and interpret correctly the information provided on an OTC medicine container label.

Types of Medicines

There are different types of medicines, and each type affects the body in specific ways. The most common uses for medicines are preventing disease, fighting infection, and relieving pain.

Medicines to Prevent Diseases

Some medicines, known as vaccines, prevent a disease from developing. A vaccine is a preparation of dead or weakened germs that causes the immune system to produce antibodies. Antibodies are proteins that attack and kill or disable specific germs that cause disease.

Common vaccines given today include those that protect you from communicable diseases (those that can spread), such as diphtheria, whooping cough, measles, mumps, rubella, chicken pox, pneumonia, and hepatitis A and B. These vaccines provide long-lasting protection. Others, such as the flu vaccine, must be administered periodically.

Medicines to Fight Infection

Many communicable diseases cannot be prevented with vaccines. Instead, certain medicines are used to restore health. Antibiotics (an·ti·by·AH·tiks) are medicines that reduce or kill harmful bacteria in the body. Each type of antibiotic fights only certain types of bacteria. For example, penicillin (pen·uh·SI·luhn) is highly effective in killing the bacteria that cause strep throat and pneumonia.

Medicines to Relieve Pain

Many people take medicines to relieve pain. When the body feels pain, such as that from a headache or toothache, pain messages travel along the nerves and spinal cord to the brain. Pain medicines block these pain messages or lessen their effect.
Aspirin is one of the most commonly used medicines for treating minor pain. Aspirin substitutes such as acetaminophen and ibuprofen are also popular. These pain medicines are widely available and do not require a doctor’s prescription. Occasionally a serious illness or a chronic disease will cause serious pain. In this case a doctor may prescribe stronger medicines such as codeine or morphine.

Other Medicines
A variety of medicines is available to treat people with certain health problems or conditions. Specific medicines are used by people with chronic conditions including heart and blood pressure problems, diabetes, and allergies.

Medicine in the Body
The effects of a medicine in the body depend on the type and amount of medicine taken. The way a medicine is taken will also affect how quickly it begins to work in the body. Figure 11.2 illustrates the four main ways in which medicines can enter the body.

Medicines will affect each person differently. That is why it is important for medicine to be used only as prescribed or directed, and only by the person who needs the medicine.

**Figure 11.2**

**How Medicines Enter the Body**
The way medicines enter the body depends on their form.

**Ingestion**
Medicine in the form of pills, tablets, capsules, and liquids is ingested, or swallowed. The medicine moves through the stomach and small intestine and is absorbed into the bloodstream and circulated throughout the body. You can take cold medicines this way.

**Injection**
Medicine given through injection goes directly into the blood. Some injections are given in a vein, others under the skin or into a muscle. If you have diabetes, you may need to give yourself daily injections.

**Inhalation**
When a liquid medicine is changed into a fine mist, it can be inhaled, or breathed in. If you have asthma, you may need an inhaler.

**Absorption**
Creams and ointments are applied to the skin or scalp and absorbed by the body. Skin patches are applied to the skin and release medicine over time. If you have a cold, you may rub ointment on your chest to clear your lungs.
Side Effects
In addition to the intended effect, some medicines also cause one or more side effects. A **side effect** is any effect of a medicine other than the one intended. Common side effects include headaches, an upset stomach, and drowsiness. If you have side effects with a medicine, talk to your doctor, nurse, or pharmacist. Some side effects, such as kidney failure, can be serious. Others may stop after the body adjusts to the medicine. Some people may be allergic to certain medicines and may need to see a doctor about a replacement.

Tolerance
When used over a long period of time, certain medicines can cause a person to develop a tolerance. **Tolerance** is a condition in which a person’s body becomes used to the effect of a medicine and needs greater and greater amounts of it in order for it to be effective. In some cases, the medicine ceases to be effective and the doctor must prescribe a different type of medicine.

**HEALTH SKILLS ACTIVITY**

**PRACTICING HEALTHFUL BEHAVIORS**

**Medicine Safety in the Home**
How much do you know about medicine safety? Follow these tips to store, use, and dispose of medicines safely.

- Store medicines in a cool, dry place.
- Keep medicines safely sealed in childproof containers, and keep them out of the reach of children.
- Do not share prescription medicines. They could cause serious harm to someone else.
- Do not use nonprescription medicines for more than ten days at a time unless you check with your doctor.
- Before taking two or more medicines at the same time, get your doctor’s approval.
- Know what medicines are in your home and what they are used to treat. Keep only those that are currently needed.
- Do not use medicines that have passed their expiration date.
- To safely dispose of outdated or unused liquids or pills, flush them down the toilet.

WITH A GROUP
Create a “Medicine Safety Checklist” suitable for home use. Review the completed checklist with your family. Post the list in an appropriate place in your home.
Overuse of Medicines

If medicines are overused, they can lose their ability to fight diseases. For example, the use of penicillin became widespread in the 1940s. Within just a few years, new strains of bacteria had developed. The new bacteria were resistant to penicillin. The more often antibiotics are used, the more likely it is that bacteria will develop a resistance to them. This is another reason why medicines must always be used wisely and in moderation.

Mixing Medicines

When two or more medicines are taken at the same time, the combined effects may be dangerous. The following reactions are possible.

- Each medicine may have a stronger effect than it would have if taken alone.
- The medicines may combine to produce unexpected effects.
- One medicine may cancel out the expected effects of the other.

Because mixing medicines can produce unpredictable and sometimes even deadly results, it is vital to let your physician know about all medicines you are presently taking.

Lesson 1 Review

Using complete sentences, answer the following questions on a sheet of paper.

Reviewing Terms and Facts

1. **List** Give three reasons people take medicines.

2. **Relate** How can medicines be used to prevent or treat communicable disease?

3. **Vocabulary** What is a side effect?

4. **Give Examples** List the three possible reactions that can result from taking more than one medicine at the same time.

Thinking Critically

5. **Contrast** Explain the difference between prescription medicines and over-the-counter medicines.

6. **Draw Conclusions** Every day, Rose took the same dose of the same medicine to manage her arthritis pain. After taking the medicine for two years, it no longer helped. What might have happened?

Applying Health Skills

7. **Advocacy** Write a letter to the editor of your school or community newspaper promoting the responsible use of antibiotics. Be sure to mention the problems caused by overuse of antibiotics.
People can harm themselves by not using drugs properly. Drug misusers take legal drugs in an improper way. Drug abusers take substances that are against the law or are not supposed to be taken into the human body. They may also use legal drugs for nonmedical purposes. The following are forms of drug misuse and drug abuse.

**Drug Misuse**
- Using a drug without following the directions
- Combining medicines without a physician’s advice
- Taking more of a drug than the doctor ordered
- Using a drug prescribed for someone else
- Giving your prescription to someone else
- Using a drug for longer than a physician advises

**Drug Abuse**
- Using any illegal drug
- Using a medicine when you do not need it
- Taking a substance that was not meant to enter the body
- Using a drug for purposes other than medical treatment
- Faking health problems to obtain or renew a prescription

Teens who use illegal drugs face serious consequences. Getting dropped from the school team is an immediate one. What might be some longer-term consequences of drug abuse?
Narcotics

Narcotics are specific drugs that are obtainable only by prescription and are used to relieve pain. Doctors may prescribe the narcotics morphine or codeine, for example, to treat extreme pain. Narcotics can be safe when taken under a physician’s supervision, but they are so addictive that their sale and use is controlled by law. People with an addiction have a physical or psychological need for a drug. Another name for drug addiction is chemical dependency. Pharmacists must keep records of all sales of narcotics.

Heroin

Heroin (HEHR·uh·win) is an illegal narcotic that is made from morphine. It is the most commonly abused narcotic and is highly addictive. When users do not get the heroin they need, they feel severe pain. Heroin depresses the central nervous system and can lead to coma or death.

Because drug users often share dirty needles, users of heroin and other injected drugs are at increased risk of contracting HIV. According to recent CDC data, half of all new infections with HIV occur among abusers of injected drugs.

Stimulants

Stimulants (STIM-yuh·luhnts) are substances that speed up the body’s functions. Stimulants make the heart beat faster, increase breathing rate, and raise blood pressure. The effects of some stimulants are so mild that people may not even realize they are using a drug. Caffeine is a stimulant found in cocoa, coffee, tea, and many soft drinks.

Some stimulants may be prescribed to help people with certain physical or emotional problems. Stimulant abuse can be very dangerous, however. High doses of strong stimulants may cause blurred vision, dizziness, anxiety, loss of coordination, or collapse. Stimulants such as amphetamine, cocaine, and crack can also become habit-forming, and users can become addicted quickly. Figure 11.3 on the next page describes some common stimulants and their harmful effects.

Once a person develops an addiction, he or she constantly needs to find and use more of the drug. Explain how chemical dependency and addiction to a drug might impact a person’s life.

Reading Check

Three paragraphs on this page present a definition of a term, followed by characteristics of it. For each term, write the definition followed by at least one of its characteristics.
Amphetamine

Amphetamine (am·FE·tuh·meen) is a drug that stimulates the central nervous system. Doctors may prescribe amphetamines to treat hyperactive children. Amphetamines are highly addictive, however. People who use or abuse amphetamines can develop a dependence on the drugs, needing larger and larger doses to get the desired effect.

Methamphetamine

Methamphetamine is a stimulant similar to amphetamine. Doctors prescribe methamphetamines to treat diseases such as narcolepsy, Parkinson’s disease, and obesity. In recent years, methamphetamines have appeared in “club drugs”—dangerous, illegal substances available at dance clubs and all-night parties.

Cocaine

Cocaine is a powerful, illegal stimulant. Its abuse has become a major health problem in the United States. Among teens, cocaine abuse increased during the 1990s. However, studies showed a significant drop in teen cocaine use in 1999.
Some people use cocaine because it makes them feel happy and energetic. This feeling is short-lived, however, and is followed by depression as the drug wears off. Users often take more cocaine to relieve the depression, thus forming an addiction to it. Cocaine is a dangerous drug, and an overdose can be fatal.

**Crack**

Crack is a concentrated form of cocaine that can be smoked. Smoking crack has the same effects on the body as using cocaine, only stronger. Crack reaches the brain within seconds and produces an intense high. The high lasts only for a few minutes, though, and is followed by an equally intense low. The user then craves more of the drug to relieve the intense bad feelings. For these reasons, crack is one of the most addictive and dangerous drugs used in the United States today.

**Depressants**

Depressants are substances that slow down the body’s functions and reactions. These substances, which are often called sedatives, lower blood pressure and slow down heart rate and breathing. Doctors sometimes prescribe depressants for relief of anxiety, tension, nervousness, and sleeplessness.

There are three main kinds of depressants.

- **Tranquilizers**
  (TRAN-kwuh-ly-zerz), when used as prescribed by a physician, can help reduce anxiety and relax muscles.

- **Barbiturates**
  (bar-BI-chuh-ruhts) are powerful sedatives that produce a feeling of relaxation.

- **Hypnotics**
  (hip-NAH-tiks) are very strong drugs that bring on sleep.

**ANTIDRUG ADS**

Collect newspaper and magazine ads that advocate against drug abuse. As a group, develop evaluation criteria for the ads and then evaluate them. Is the media message suitable for the intended audience? How effective is the message?

A teen with strong values will choose healthful behaviors and avoid the use of drugs.
Depressants should be taken only under a doctor’s supervision. If taken over an extended period, they can cause dependence and a need for more and more of the drug.

Depressants produce effects similar to those produced by alcohol, which itself is a form of depressant. When depressants are combined with alcohol, the effects increase and the risks multiply. The results can be deadly. Figure 11.4 provides more information about depressants and their effects on the body.

**Figure 11.4**

**Effects of Depressants**

If abused, depressants can have many harmful effects on the body, up to and including death.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Other Names</th>
<th>Forms</th>
<th>Methods of Use</th>
<th>Harmful Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tranquilizer</td>
<td>Valium, Librium, Xanax</td>
<td>Pills or capsules</td>
<td>Swallowed</td>
<td>Anxiety; reduced coordination and attention span. Withdrawal can cause tremors and lead to coma or death.</td>
</tr>
<tr>
<td>Barbiturate</td>
<td>Downers, barbs, yellow jackets, reds</td>
<td>Pills or capsules</td>
<td>Swallowed</td>
<td>Causes mood changes and excessive sleep. Can lead to coma.</td>
</tr>
<tr>
<td>Hypnotic</td>
<td>Quaaludes, Ludes, Sopor</td>
<td>Pills or capsules</td>
<td>Swallowed</td>
<td>Impaired coordination and judgment. High doses may cause internal bleeding, coma, or death.</td>
</tr>
</tbody>
</table>

**Lesson Review**

Using complete sentences, answer the following questions on a sheet of paper.

**Reviewing Terms and Facts**

1. **Recall** What are three forms of drug misuse and three forms of drug abuse?
2. **Vocabulary** What is *addiction*? Use it in a complete sentence.
3. **Explain** How is heroin use related to the spread of HIV?
4. **Give Examples** List two types of stimulants, and describe their effects on the body.

**Thinking Critically**

5. **Contrast** How do the effects of stimulants differ from those of depressants?
6. **Apply** How would you refuse an offer to try crack?

**Applying Health Skills**

7. **Stress Management** Some people use illegal drugs because they think that drugs will help them manage stress. Write down five examples of healthful ways to manage stress without using drugs.
Street Drugs

Companies that manufacture drugs sold as medicines must follow strict government regulations. These laws ensure that the medicines are pure and consistent in strength, known risks, and side effects.

Any drug that is made or sold outside of these laws is considered a street drug. Street drugs include illegally made, packaged, or sold legal drugs, such as amphetamines. Street drugs also include illegal drugs, such as heroin and marijuana. There are no laws to protect the purity and content of street drugs. People who use them don’t know how much of the drug they are taking. As a result, they risk being poisoned and dying of accidental overdose.

Marijuana

Marijuana is the most commonly used street drug. The main active chemical in marijuana is THC (tetrahydrocannabinol), which affects the brain. Hashish, which is made from the same plant, is much stronger than marijuana because it contains more THC. Figure 11.5 lists the effects of marijuana.

Figure 11.5

Effects of Marijuana

Common street names for marijuana include pot, grass, weed, joint, and herb.

- Reduces memory, reaction time, and coordination, and impairs judgment
- Reduces initiative and ambition
- Increases heart rate and appetite and lowers body temperature
- Damages heart and lungs
- Interferes with normal body development in teens by changing hormone levels
- May cause addiction

Quick Write

List at least two dangers of illegal drug use.

Learn About...

- the risks of using marijuana.
- the dangers of hallucinogens.
- how inhalants affect the body.
- what club drugs and steroids do to the body.

Vocabulary

- hallucinogens
- psychological dependence
- inhalant
- physical dependence
Although some users mix marijuana with food and eat it, most choose to smoke it. As a result, marijuana smokers experience many of the same lung problems as tobacco smokers. These include persistent coughing, bronchitis symptoms, and frequent colds. Marijuana smoke contains three to five times the amount of tar and other cancer-causing substances found in tobacco smoke.

**Hallucinogens**

**Hallucinogens** (huh-LOO-suhn-uh-jenz) are drugs that distort moods, thoughts, and senses. Physical effects of hallucinogens include increased heart rate and blood pressure and lack of muscle coordination. Hallucinogens can also cause decreased sensitivity to pain, which can result in serious self-injury.

Taking a hallucinogen may cause the user to hallucinate, or see things that are not really there. Sometimes it can trigger uncontrolled, violent behavior. Hallucinogens also cause people to lose their sense of direction, distance, and time. These effects often lead to misjudgments that result in serious injuries and death.

**PCP**

Phencyclidine (fen-SI-kluh-deen), commonly called PCP, is a powerful and dangerous hallucinogen whose effects last a long time. PCP produces strange, destructive behavior, which causes many users to end up in hospital emergency rooms. PCP use often leads to psychological dependence, an addiction in which the mind sends the body a message that it needs more of a drug. Figure 11.6 provides more information about PCP.

**LSD**

LSD is an abbreviation for lysergic (luh-SER-jik) acid diethylamide (dy-e-thuh-LA-myd), another powerful hallucinogen. Use of LSD often produces rapid mood swings and hallucinations. Some users have terrifying thoughts and feelings, such as fear that they are dying or going crazy. Many LSD users experience flashbacks. During a flashback, the effects of LSD may recur days, months, or years after the drug was taken. Figure 11.6 gives additional information about LSD.
Inhalants

Any substance whose fumes are sniffed and inhaled to produce mind-altering sensations is considered an inhalant. Household products that come in aerosol spray cans are commonly used as inhalants. These products include spray paint, cleaning fluid, lighter fluid, hair spray, nail polish remover, and other harmful substances. These substances are not meant to be taken into the body and can be very dangerous.

When inhalants are breathed in, their harmful fumes go directly to the brain. These fumes commonly cause headache, nausea, vomiting, and loss of coordination. A single use can result in sudden death. Inhalant use can lead to physical dependence, a type of addiction in which the body itself feels a direct need for a drug. Long-term inhalant use can damage the liver, kidneys, and brain.

Club Drugs

Club drugs are drugs that are associated with nightclubs, concerts, and all-night dance parties called raves. Other terms for drugs associated with these activities are designer drugs and look-alike drugs. The term designer drug often refers to a synthetic version of a natural drug. Look-alike drugs are drugs that resemble and are passed off as another drug.
Some club drugs are colorless, tasteless, and odorless. These properties have led to the dangerous practice of drug slipping. Drug slipping occurs when a drug is placed in someone’s food or beverage without that person’s knowledge. Because drug slipping has been used to aid in committing rape, some club drugs are sometimes called date rape drugs. Commonly used club drugs include:

- **Ecstasy**, also called E, X, and XTC, is a stimulant and a hallucinogen in pill form. Users may experience confusion, depression, anxiety, nausea, faintness, chills, or sweating. Ecstasy can cause permanent brain damage.

- **GHB** is a depressant, and its street names include Liquid Ecstasy, Liquid X, Georgia Home Boy, and Grievous Bodily Harm. Available in powder and liquid form, GHB is especially dangerous when taken with alcohol or other drugs. The combination may result in sleep, coma, and death.

- **Rohypnol** is a powerful sedative. It’s also called the date rape drug, Roofies, and R-2. Rohypnol is typically a small white tablet which, when dissolved in liquid, has no taste or odor. The drug’s short-term effect is a sleepy, relaxed feeling that lasts two to eight hours. The user might also black out.

- **Ketamine** is an anesthetic used for medical purposes, mostly in treating animals. Misused as a club drug, ketamine is often sold as a white powder to be snorted, like cocaine, or injected. The drug is also smoked with marijuana or tobacco products. Ketamine causes hallucinations and dreamlike states. Its use may result in death through respiratory failure.

### Refusal Skills Activity

**Refusing Drugs**

Megan is thrilled when Nina invites her to “join the crowd” at her home after school. It isn’t often that a junior like Nina would even talk to Megan, a freshman.

When Megan gets to Nina’s house, she sees that there are five or six girls from school but no adults. Nina brings out a little bag of tablets and tells the girls that the pills are a cool new club drug. She says that all the kids are taking the pills at dance parties. She starts to pass the pills around. Megan sits frozen in her chair.

**What would you do?**

Apply refusal skills to Megan’s situation. With a classmate, role-play a scenario in which Megan used S.T.O.P. to refuse Nina’s offer of a club drug.

**Say no in a firm voice.**

**Tell why not.**

**Offer other ideas.**

**Promptly leave.**
Anabolic Steroids

Some athletes mistakenly believe that drugs will improve their performance. They may start using steroids, which bulk up muscle at an abnormally fast rate. In time, the harmful effects of steroids become obvious. They include acne, mood swings, nausea, liver damage, brain cancers, and shorter adult height when taken by children and teens. Athletes are routinely tested for illegal drugs. If they have been using steroids or other drugs, they face stiff penalties and may lose their right to compete.

Lesson Review

Using complete sentences, answer the following questions on a sheet of paper.

**Reviewing Terms and Facts**

1. **Vocabulary** Define the terms *hallucinogen* and *inhalant*. Explain the relationship between the two terms.

2. **List** Name two hallucinogens known by their initials.

3. **Compare** What is the difference between *psychological dependence* and *physical dependence*?

4. **Explain** Why are club drugs especially dangerous?

**Thinking Critically**

5. **Apply** Explain the impact of chemical dependency and addiction to illegal drugs and other substances.

6. **Analyze** Why are teens more likely than adults to abuse inhalants?

**Applying Health Skills**

7. **Accessing Information** Use reliable resources to research marijuana’s harmful effects on body systems. Report your findings to the class.
Staying Drug Free

Avoiding Drugs

You have the responsibility to be the healthiest person you can be. The best way to meet that responsibility is to make wise choices that have a positive effect on your health. One of the most important decisions you can make is to be drug free. Figure 11.7 shows some of the many advantages of avoiding drugs. What can you add to the list?

- You will not be breaking the law.
- You will have better concentration and memory.
- You will make wiser decisions.
- You will be able to focus on improving your talents and enjoying your interests.
- You will have more natural energy.
- You can reach your full growth potential.
- You can be as healthy as possible.
- You will look better because drugs will not ruin your appearance.
- You will have better control of your feelings and actions.
- You will not regret foolish actions caused by drug-impaired judgment.
- You will not waste money on drugs.
- You will have better relationships with family members.
- You will respect yourself for taking care of your body and mind.
- You will be able to succeed in education.
- Your mental and emotional development will be on time, not delayed.
Kicking the Habit

Kicking the drug habit once it has been established is much harder than resisting the pressure to start. The first step is for the drug user to recognize that a problem exists. The next step is to start the recovery process.

If the person has become physically or psychologically addicted to a drug, then the recovery process involves withdrawal. **Withdrawal** includes the physical and psychological symptoms that occur when someone stops using an addictive substance. Withdrawal symptoms vary depending on the drug used, but may include vomiting, headaches, chills, and hallucinations.

Withdrawal is often a painful process, and medications are usually given to ease the withdrawal symptoms. In addition to ridding one’s body of the addictive substance, the recovering drug user must change his or her thinking and the habits that led to the drug use. Although withdrawing from drugs is difficult, the benefits of becoming drug free are well worth the effort.

Getting Help

Drug users need help to recover from their addiction. Most communities offer support groups and treatment programs for drug addiction. A support group is a group of people who share a common problem and work together to help one another cope and recover. Common support groups for drug addiction include Narcotics Anonymous and Cocaine Anonymous. Nar-Anon provides help for those who have been affected by someone else’s drug use.

This teen is talking to a school counselor to get help for his drug problem. **What other resources offer support against drug abuse?**
A good drug treatment program has trained experts who provide education and support, and who can help the user through the withdrawal period. Withdrawal often requires detoxification (dee-tahk-si-fi-KAY-shuhn), the physical process of freeing the body of an addictive substance. "Detox" also involves helping the user overcome psychological dependence on the substance and regain health. A variety of treatment centers are available to help people recover from drug abuse.

- **Detox units** are usually part of a hospital or other treatment center. Addicts remain under a doctor’s care while going through detoxification.
- **Inpatient treatment centers** are places where people stay for a month or more to fully concentrate on recovery.
- **Outpatient treatment centers** are places where people get treatment for a few hours each day. Then they return to their homes and regular surroundings.

**Hands-On Health**

**Drug-Free Campaign**

Kicking a drug habit is much harder than resisting the pressure to start using drugs. You can help spread this important message to young people. Work with a small group of classmates to create an advertising campaign that promotes staying drug free. Design your campaign to reach younger students.

**What you will need**
- art supplies and paper
- computer access, if possible

**What you will do**
1. Decide what media you will include in your campaign. For example, you might create a poster or a Web page for the school Web site.
2. Choose an advertising technique to use. You might create an informational, persuasive, or sensational ad.
3. Brainstorm ideas for an effective ad. Then divide the work so that each group member has a task to complete.
4. Post your ads in the classroom, in the school newspaper, or on the school Web site, as appropriate.

**In conclusion**
1. As a class, evaluate the effectiveness of each group’s ad campaign. How well was the message conveyed?
2. What are some other ways to encourage younger students to stay drug free?
Living Drug Free
There are many healthy alternatives to drug use. Here are some strategies for counteracting risk factors:

If you feel lonely, depressed, or bored:
• Learn a new sport, hobby, or join a club.
• Start a regular physical activity routine.
• Volunteer to help people in your community.
• Identify and participate in positive alternative activities, such as drug-free events. Encourage your peers to attend as well.

If you need help solving personal problems:
• Talk to an adult you trust.
• Contact a hot line or support group.

If you are tense and anxious:
• Learn to relax by taking deep breaths.
• Get enough rest and physical activity.
• Use time management skills to avoid overscheduling your time.

If peers pressure you to use drugs:
• Recognize this as a negative social influence.
• Avoid situations in which this pressure may occur.
• Respond by using refusal skills.
• Obtain help from a trusted adult if necessary.

Lesson Review
Using complete sentences, answer the following questions on a sheet of paper.

Reviewing Terms and Facts
1. Identify List five reasons to be drug free that are most important to you.
2. Vocabulary Define the term withdrawal.
3. Recall In your own words, describe what detoxification does.
4. List Name the three types of drug treatment programs.

Thinking Critically
5. Hypothesize Why do you think more and more teens are deciding to stay drug free?
6. Explain Why is it important to follow the rules prohibiting the possession of drugs?

Applying Health Skills
7. Communication Skills Identify ways that a teen could use effective communication skills to obtain help in resisting pressure to use drugs. Share your ideas with the class.
Marijuana Myths

Despite what some people may think, marijuana is a dangerous drug. Here’s the truth behind a few common myths.
**MYTH** “Marijuana is natural—it can’t harm the body.”

**FACT** Wrong! In males, heavy marijuana smoking can delay the onset of puberty, decrease sperm count, and make sperm abnormal. In girls, marijuana use can disturb menstrual cycles and decrease fertility. It may also raise levels of the hormone testosterone, which can increase the growth of facial and body hair and cause acne. Also, when people smoke marijuana, their responses are slower and they can’t think as clearly, which can lead to serious, or even fatal, accidents.

**MYTH** “Smoking marijuana is safer than using other drugs.”

**FACT** There’s no way to tell if the marijuana is laced with another drug, such as cocaine, crack, or heroin. So a marijuana smoker might sample another dangerous drug without knowing it and become physically addicted to it.

**MYTH** “Getting caught with marijuana is no big deal.”

**FACT** Marijuana is illegal. If someone gets caught using the drug, he or she can go to jail. Depending on the state where they live, marijuana users risk landing themselves sentences ranging from probation to something more severe—like time at a residential drug-treatment center or a juvenile detention center.

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**Time Health: Marijuana Myths**

**About Marijuana’s Harmful Effects**

Review the information presented in this article and in the sidebar. Then, create several bumper stickers that feature antimarijuana slogans. Each slogan should focus on a different harmful effect of the drug. Slogans should be brief, as well as catchy and thought provoking.
Advocating healthful behaviors to another person is one way to make a difference. Read about how a teen named Steve uses the advocacy skill to express his concern for his younger brother J.R.

STEVE: J.R., I’d like to talk to you about something.
J.R.: Sure, what’s up?
STEVE: It’s about your new friend Lucas. I know he’s your friend, but I’m kind of worried about you hanging out with him.
J.R.: What, just because he smokes a little grass?
STEVE: You sound like you think that’s no big deal. Let me tell you something: that stuff really messes you up. I know a guy who started using it and it was like he stopped caring about everything. His grades got really bad and finally he just stopped going to school.
J.R.: What happened to him?
STEVE: His parents found out and put him in a rehab program. You see, I don’t want that kind of thing to happen to you.
STEVE: Don’t worry. I won’t do anything that stupid. Maybe I should talk to Lucas—he probably doesn’t know how dangerous it is.
Practice

Read the scenario below about a teen named Marnie who wants to advocate avoiding drugs to her friends. What are some of the ways Marnie could take a stand on this issue? What approach do you think would be most effective? Write a dialogue in which Marnie shares her views with her friends. Show how she uses advocacy skills to take a clear position and be convincing.

Marnie is having lunch with some friends. A few of the other girls start talking about a party they went to where some people were using drugs. They are talking about it as if they think it's normal. Marnie is worried about her friends. She wants to make sure they understand about the dangers of using drugs.

Apply/Assess

Work with a group to create an illustrated brochure that will convince other teens to remain drug free. Use three or four blank sheets of unlined paper. On them, provide information about how drug use can harm physical, mental/emotional, and social health. Your brochure should also include information about the many benefits of a drug-free lifestyle. Use design features such as color, highlighting, and bulleted lists to make your main points stand out. Illustrate your brochure with your own drawings or with photographs cut out of magazines and newspapers. Finally, make an attractive cover for your brochure and give it a catchy, health-promoting title.
CHAPTER 11: MEDICINES AND DRUGS

Reviewing Vocabulary and Concepts

On a sheet of paper, write the numbers 1–6. After each number, write the term from the list that best completes each sentence.

- medicines
- over-the-counter (OTC) medicine
- prescription medicine
- drugs
- tolerance
- vaccines

Lesson 1

1. ________ change the structure or function of the body or mind.
2. ________ cause the immune system to produce antibodies.
3. A type of medicine that requires a physician’s written order is ________.
4. To treat or prevent diseases, you might take ________.
5. ________ occurs when a person’s body becomes used to the effects of a substance.
6. Medicine that is safe enough to be taken without a written order from a physician is ________.

Lesson 2

On a sheet of paper, write the numbers 7–10. Write True or False for each statement below. If the statement is false, change the underlined word or phrase to make it true.

7. Substances that speed up body functions are called depressants.
8. Stimulants are substances that slow down the body’s functions and reactions.
9. Physicians may prescribe narcotics such as morphine to treat extreme pain.
10. Hypnotics are very strong drugs that bring on sleep.

Lesson 3

11. PCP and LSD are examples of
   a. narcotics.
   b. hallucinogens.
   c. inhalants.
   d. stimulants.
12. An addiction in which the body feels a direct need for a drug is
   a. physical addiction.
   b. abusive addiction.
   c. psychological addiction.
   d. dependent addiction.
13. Which is associated with club drugs?
   a. bulking up muscles
   b. inhaling harmful fumes
   c. increased acne
   d. drug slipping

Lesson 4

14. Someone who stops using an addictive substance may experience symptoms such as
   a. hallucinations.
   b. vomiting.
   c. chills.
   d. all of the above.
15. The physical process of freeing the body of an addictive substance is called
   a. withdrawal.
   b. quitting.
   c. kicking the habit.
   d. detoxification.
Thinking Critically

Using complete sentences, answer the following questions on a sheet of paper.

16. **Suggest**  Give three examples to show how reading the label of an OTC medicine and interpreting the instructions correctly can help you use it safely.

17. **Evaluate**  Why would it be dangerous to ride in a car with a driver who has been smoking marijuana?

18. **Apply**  How could a teen use positive peer pressure to help counteract the negative effects of living in an environment where drug abuse exists?

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**Career Corner**

**Medical Record Technician**  If you like managing information, consider a career as a medical record technician. These professionals maintain patients’ records in hospitals, clinics, and doctor’s offices. They track health information to ensure that patients receive the right treatments and medications.

A medical record technician has an associate’s degree in information management. Find out more about this and other health careers by clicking on Career Corner at health.glencoe.com.

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**Standardized Test Practice**

**Math**

Read the paragraph below and then answer the questions.

Over-the-counter medicines have an expiration date printed on them. These dates tell you the last date that you can assume that the medicine is safe to use. Prescription medicines have a date printed on the label. This is the date that the prescription was filled. According to the instructions of how much to take and for how long, the medication will be fresh for the length of time of its use.

1. Gina had a bacterial infection and was given 30 antibiotic tablets to take. She is to take one pill three times a day. The date on the prescription bottle is April 23, 2005. What is the last date she should use the medication?

   - A April 30, 2005
   - B May 3, 2005
   - C May 23, 2005
   - D May 30, 2005

2. Marcus bought some cough syrup dated January 14, 2005. He is to take two teaspoons twice a day and expects to take the medicine for a week. What is the last day he should use this cough syrup?

   - A January 7, 2005
   - B January 14, 2005
   - C January 21, 2005
   - D January 28, 2005

3. Kai bought some prescription eye drops for his allergies on August 12. They had an expiration date on the label of November 28 of the same year. There are enough drops in the bottle to last for 100 days. Identify the date that Kai should use to determine when he should stop using the drops.

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