

Tobacco

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**PREMIUM
ONLINE
RESOURCES**



Audio



Videos



Bilingual Glossary



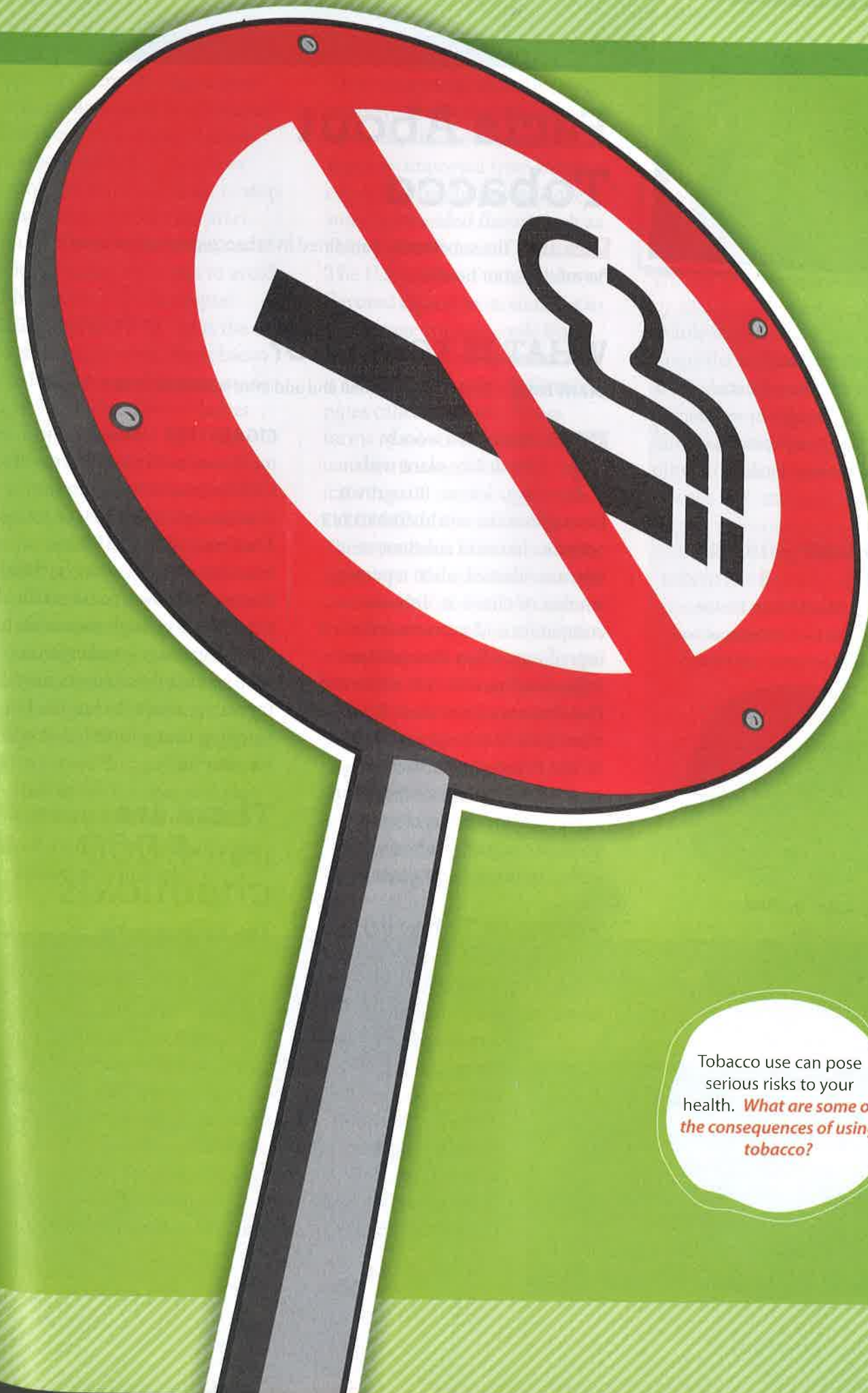
Fitness Zone



Web Quest



Review



Tobacco use can pose serious risks to your health. *What are some of the consequences of using tobacco?*



LESSON 1

Facts About Tobacco

BIG IDEA The substances contained in tobacco products are very harmful to your health.

Before You Read

QUICK WRITE Make a list of as many tobacco products as you can think of prior to reading this lesson. Briefly describe each product.

Video

As You Read

FOLDABLES Study Organizer

Make the Foldable® found in the FL pages in the back of the book to record the information presented in Lesson 1.

Vocabulary

- › nicotine
- › addictive
- › smokeless tobacco
- › snuff
- › tar
- › bronchi *not online*
- › carbon monoxide

Audio

Bilingual Glossary

Myth vs. Fact

Myth: Cigarettes advertised as “all natural” are safer to smoke than regular cigarettes.

Fact: All cigarettes are harmful to the human body. The smoke from any cigarette contains tar and carbon monoxide. There is no evidence that any type of cigarette is less harmful than another.

WHAT IS TOBACCO?

MAIN IDEA Tobacco is a harmful and addictive substance in all its forms.

Tobacco is a woody, shrub-like plant with large leaves. It is grown throughout the world. Tobacco contains harmful substances that are released when a person smokes or chews it. Tobacco companies add more harmful ingredients when they prepare tobacco to be sold. It is estimated that there are more than 4,000 chemicals in tobacco—many of which have been proven to cause cancer. Some of the same ingredients found in cleaning products or pest poisons are added to tobacco products.

Forms of Tobacco

Tobacco companies harvest leaves from tobacco plants. The leaves are then prepared for smoking or chewing. Tobacco products come in many forms. The most common include cigarettes, cigars, pipes, specialty cigarettes, and smokeless tobacco.

CIGARETTES These are the most commonly used forms of tobacco products. Cigarettes contain shredded tobacco leaves. They may also have filters intended to block some harmful chemicals. However, filters do not remove enough chemicals to make cigarettes less dangerous. Also, some tobacco users may try not to inhale the smoke, but smoking in any form is not safe for your body.

There are more than 4,000 chemicals in tobacco.

Tobacco smoke contains many harmful chemicals that put smokers at risk for lung diseases, heart disease, and various types of cancer. Tobacco also contains **nicotine, an addictive, or habit forming, drug. Addictive means capable of causing a user to develop intense cravings.** These cravings make it hard to quit.

Nicotine is found in all types of cigarettes, cigars, pipe tobacco, and smokeless tobacco. The nicotine in tobacco products is so addictive that most users find it very difficult to stop using tobacco once they start. You will learn more about nicotine addiction and ways to avoid tobacco later in this chapter.

CIGARS AND PIPES As is the case with cigarettes, the tobacco used in cigars and pipes is made up of shredded tobacco leaves. However, one large cigar can contain as much tobacco and nicotine as an entire pack of 20 cigarettes. Pipes and cigars also cause some of the same serious health problems that cigarettes do. Cigar smoke contains up to 90 times more cancer-causing chemicals than those found in cigarette smoke. People who smoke cigars or pipes are more likely to develop mouth, tongue, or lip cancer than people who do not use tobacco. Cigar and pipe smokers also face an increased risk of dying from heart disease compared to nonsmokers.

SPECIALTY CIGARETTES

This category includes flavored, unfiltered cigarettes and clove cigarettes. Flavored cigarettes are typically imported from other countries. In addition to clove, some have added flavors such as cherry, strawberry, or cinnamon. The U.S. has tried to ban sales of flavored cigarettes in an effort to discourage young people from trying them. Flavored tobacco is also smoked in special water pipes called hookahs. These forms of tobacco contain higher concentrations of harmful chemicals than do regular cigarettes.

ELECTRONIC CIGARETTES

These products look like regular cigarettes. “E-cigarettes” do not contain tobacco, but they still have nicotine inside. Liquid nicotine is heated, and users inhale the vapor. These “smokeless cigarettes” are sometimes marketed as a way to help smokers quit or as an alternative to regular cigarettes. However, the nicotine in electronic cigarettes has the same harmful addictive effects as that found in regular cigarettes.

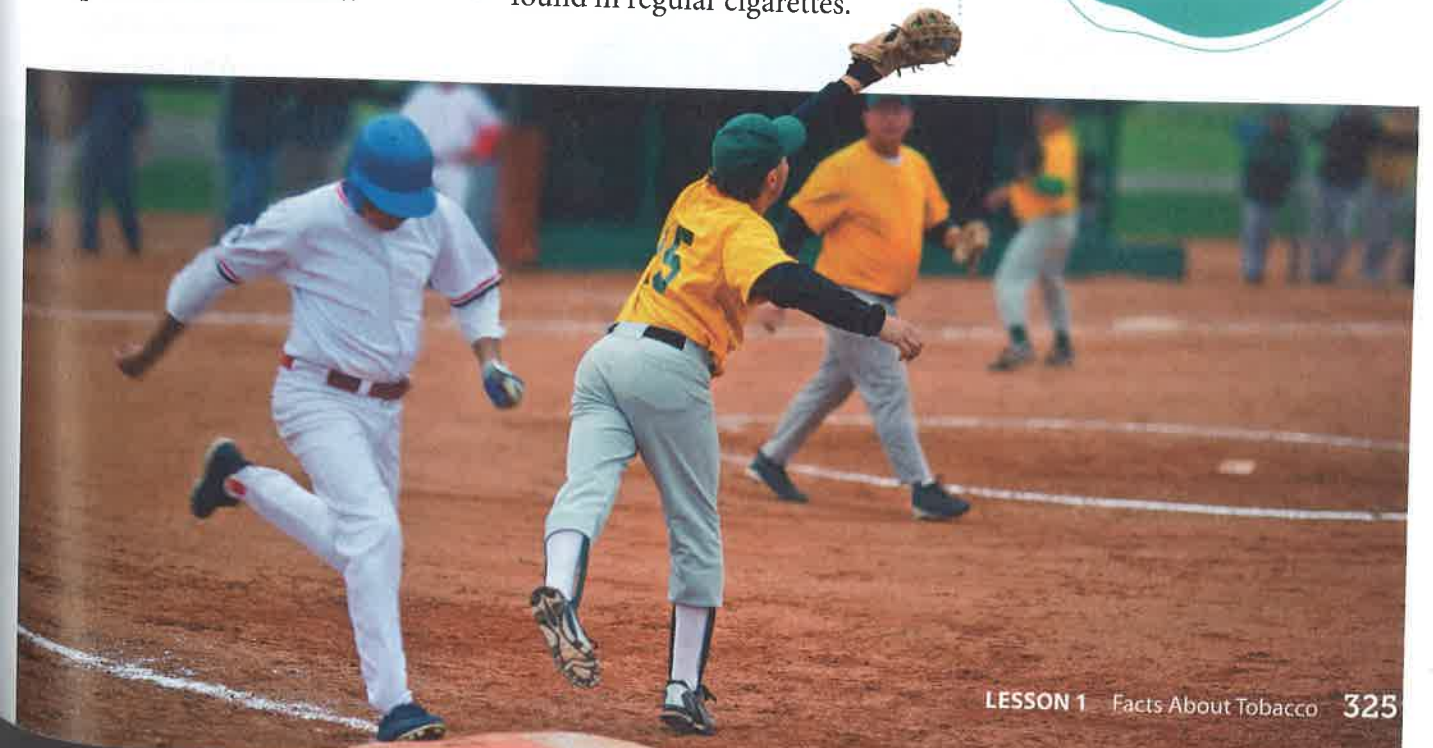
SMOKELESS TOBACCO

Smokeless tobacco is ground tobacco that is chewed, placed inside the mouth along the gum line, or inhaled through the nose. It comes in two forms. Chewing tobacco is often called “dip” or “spit tobacco.” **Snuff** is finely ground tobacco that is inhaled or held in the mouth or cheeks. While it does not affect the lungs the way smoking does, smokeless tobacco is not a safe alternative to cigarettes. It contains addictive nicotine and other chemicals and causes gum disease and oral cancer.

Reading Check

IDENTIFY What are the most common health risks associated with cigars and pipes?

Sports leagues have restricted the use of smokeless tobacco by athletes. *Describe the influence this might have on sports fans.*



CHEMICALS IN TOBACCO

MAIN IDEA Tobacco contains many chemicals that can harm your body.

Harmful chemical compounds exist in all forms of tobacco. These are released when a person smokes or chews tobacco. Chemicals in tobacco can also affect nonsmokers who inhale others' smoke. Most of these chemicals hurt your body's ability to work properly.

Harmful chemicals exist in all forms of tobacco.

- **Nicotine** is one of the harmful substances found in tobacco leaves and in all tobacco products. Nicotine is an addictive, or habit-forming, drug. A person begins to depend on it after it has been in the body regularly. A person can become addicted to nicotine very quickly. Nicotine has other effects, too. It makes your heart beat faster and raises your blood pressure. It causes dizziness and an upset stomach and reduces the amount of oxygen your blood carries to the brain.

- **Tar** is a dark, thick liquid that forms when tobacco burns. When a person smokes, the smoker inhales this dangerous substance. When it is inhaled, tar covers the airways and the **bronchi**, which are passageways that branch from the trachea to each lung. Lungs covered with tar can become diseased and cause serious breathing trouble.
- **Carbon monoxide** is a colorless, odorless, poisonous gas that is created when tobacco burns. Carbon monoxide harms the brain and the heart by reducing the amount of oxygen available to these organs. If too much carbon monoxide enters your body, it can kill you.

Reading Check

NAME What are three harmful substances found in tobacco smoke? ■

Smoking tobacco in cigarettes is one way people are at risk of getting cancer or having other health problems. *Explain some of the healthful decision can you make about tobacco.*



LESSON 1

REVIEW

After You Read

1. **VOCABULARY** What does the term *addictive* mean? Use it in a complete sentence.
2. **SUMMARIZE** Why is tobacco harmful?
3. **IDENTIFY** Name three substances in tobacco smoke that are harmful to the body.

Thinking Critically

4. **ANALYZE** If many cigarettes have filters, why are they still not safe?
5. **EXPLAIN** What is harmful about the chemicals in tobacco?

Applying Health Skills

6. **COMMUNICATION SKILLS** Ryan has learned that his friend Spencer smokes cigars and uses smokeless tobacco. Spencer tells Ryan that this is not as bad as smoking cigarettes. What facts might you suggest that Ryan share with Spencer to convince him that his tobacco use is still harmful?

Review

Audio



LESSON 2

Health Risks of Tobacco Use

BIG IDEA Tobacco is a dangerous drug with serious health consequences.

TOBACCO USE IS HARMFUL TO YOUR HEALTH

MAIN IDEA Health experts have been warning about the dangers of tobacco for many years.

The message that smoking is bad for your health is not new. In 1964, the Surgeon General issued a report saying that smoking may be hazardous. A year later, tobacco companies were ordered to add health warnings to cigarette packages. Since then, the warning labels have become more prominent. Other tobacco products now also carry similar warnings.

Tobacco use has serious consequences. The chemicals in tobacco and tobacco smoke can cause damage to most of the

body's systems. In the United States, more than 400,000 people die every year from smoking-related illnesses. Tobacco use is especially damaging to teens because their bodies are still growing. The chemicals in tobacco interfere with this process of growth and development.

You have already learned that nicotine raises the heart rate and blood pressure. Tobacco users often cannot run as long or as fast as they did before they started smoking. They get sick more often and tend to stay sick longer. Tobacco use can cause diseases of the mouth and lungs.

400,000 people die every year from smoking-related illnesses.

Tobacco use also damages the rest of the body. It can cause diseases of the circulatory system, respiratory system, nervous system, digestive system, and excretory system. Many of these illnesses can be prevented if you choose the positive health behavior of staying tobacco free.

Reading Check

RECALL Why is smoking especially hazardous to teen health?

Before You Read

QUICK WRITE List two future goals. Then write a short paragraph telling how a tobacco-related illness could affect each of these goals.

Video

As You Read

STUDY ORGANIZER Make the study organizer found in the FL pages in the back of the book to record the information presented in Lesson 2.

Vocabulary






• alveoli
• emphysema

Audio

Bilingual Glossary

What Teens Want to Know

Will smoking make my skin look worse? Smoking cigarettes causes changes in the skin that speed up the aging process. Only sun exposure does more damage to the skin than smoking. A research study found microscopic wrinkles developing on the skin of smokers as young as 20 years old. In addition, a smoker's skin tends to develop a yellowish or grayish look.

Respiratory System 	Tobacco smoke damages the air sacs in the lungs. This damage can lead to a life-threatening disease that destroys these air sacs. Smokers are also between 12 and 22 times more likely than nonsmokers to develop lung cancer.
Digestive System 	All forms of tobacco increase the risk of cavities and gum disease. Tobacco dulls the taste buds and can cause stomach ulcers. Tobacco use is linked to cancers of the mouth, throat, stomach, esophagus, and pancreas.
Nervous System 	Tobacco use reduces the flow of oxygen to the brain, which can lead to a stroke.
Excretory System 	Smokers have at least twice the risk of developing bladder cancer as nonsmokers. Smokeless tobacco can also put users at risk of developing bladder cancer.
Circulatory System 	Tobacco use is linked to heart disease. It increases the chances of a heart attack. Smoking also raises blood pressure and heart rate.

Respiratory System

Tobacco smoke contains tar, which coats the inside of the lungs. Smoke damages the **alveoli**, or *tiny air sacs in the lungs*. When this happens, your lungs are less able to supply oxygen to your body. This damage can cause **emphysema**, a disease that results in the destruction of the **alveoli in the lungs**. When this disease affects a large part of the lungs, it can cause death.

The chemicals in tobacco also put smokers at a greatly increased risk of developing lung cancer. Lung cancer is the leading cause of death among people who smoke. A person who quits smoking completely can greatly reduce the risk of lung cancer.

A person who **quits smoking** can **reduce the risk of lung cancer**.

Circulatory System

Tobacco use affects the circulatory or cardiovascular system, which includes the heart and blood vessels. As nicotine enters the circulatory system, blood vessels constrict, or squeeze together. Over time, the blood vessels can harden. When this happens, the blood vessels cannot carry enough oxygen and nutrients to all the parts of the body that need them.

Using tobacco harms many body systems, causing many health problems or diseases. *Explain the effects of tobacco use on the digestive system.*

Tobacco use also raises blood pressure and heart rate. Blood vessels narrow and harden due to nicotine and other factors. As a result, the heart has to work harder to move blood, oxygen, and nutrients through the body. When the heart has to work harder and blood vessels are narrower, blood pressure goes up. High blood pressure puts more stress on the heart and blood vessels. This increases the chance of a heart attack, stroke, or heart disease.

Nervous System

Your brain needs oxygen. The carbon monoxide in tobacco smoke can cut down the amount of oxygen that the blood can carry to the brain. Nicotine reaches the brain in only a few seconds and attaches to special receptors in brain cells. The brain then adapts by increasing the number of nicotine receptors. Tobacco users then have a strong need for more tobacco.

Digestive System

Smoking can damage your digestive system. It can lead to mouth and stomach ulcers, which are painful, open sores. People with ulcers may not be able to eat certain foods. They may not get all the nutrition they need. Smoking also harms teeth and gums, causing teeth to yellow. Smokers are also more likely to get cavities and gum disease.

The first photo is a healthy lung. The second photo is a cancerous lung. Healthy lungs provide oxygen to your body. *Evaluate the choices you can make to decrease your risk of getting lung cancer.*



Excretory System

Tobacco can also harm your excretory system. Smokers and tobacco users are much more likely to develop bladder cancer than are nonsmokers. Chemicals in tobacco smoke are absorbed from the lungs and get into the blood. From the blood, the chemicals get into the kidneys and bladder. These chemicals damage the kidneys and the cells that line the inside of the bladder and increase the risk of cancer. Smoking tobacco is also a factor in the development of colorectal cancer, a cancer that affects the colon and the rectum.

Reading Check

SUMMARIZE List two harmful effects of smoking tobacco.

Health SKILLS ACTIVITY

Decision Making

Fresh-Air Friend

Mike gets a ride to school with his friend Ashley and her mom. Mike is concerned because Ashley's mom smokes in the car. He hasn't mentioned it because he doesn't want to sound ungrateful. He has tried opening a window, but Ashley says it makes her cold. Mike doesn't know what to do or say. Use the decision-making process to help Mike make a decision.

- * State the situation.
- * Consider your values.
- * List the options.
- * Make a decision and act.
- * Weight the possible outcomes.
- * Evaluate the decision.



Apply the six steps of the decision-making process to Mike's problem. What are Mike's options? Show how Mike makes a healthful decision.

EFFECTS OF TOBACCO USE

MAIN IDEA Tobacco use causes both short-term and long-term damage to the body.

Tobacco use causes changes in the body. Some of the effects of tobacco use are immediate. These short-term effects can often be felt right away.

- **Cravings** Nicotine is a very addictive drug, which means it causes the body to want more of it. A person who uses tobacco may feel a need for more very soon after using it.
- **Breathing and heart rate** For a smoker, it becomes harder to breathe during normal physical activity. It is more difficult for a tobacco user to work out for a long period of time. Nicotine also causes the heart to beat faster than normal.

Tobacco use causes changes in the body.

- **Taste and appetite** Tobacco use dulls taste buds and reduces appetite. Tobacco users may lose much of their ability to enjoy food. However, when a person quits using tobacco, taste buds will heal.
- **Unpleasant feelings** Tobacco users may experience dizziness. Their hands and feet may also feel colder than normal.
- **Unattractive effects** Tobacco use causes bad breath, yellowed teeth, and smelly hair, skin, and clothes. It also ages the skin more quickly.

As you have learned, the chemicals in tobacco cause damage to many body systems. The impact of tobacco use is not limited only to smokers and other tobacco users. Simply being around other people who smoke can also cause health problems. Some of the long-term damage caused by tobacco use can even be life-threatening.

- **Bronchitis** Tobacco smoke can damage the bronchi, or the passages through which air travels to the lungs. Also, a buildup of tar in the lungs can cause a smoker to have fits of uncontrollable coughing.
- **Emphysema** This disease can make a person use most of his or her energy just to breathe. Emphysema is a common cause of death for smokers.
- **Lung cancer** Nearly 90 percent of lung cancer deaths are caused by smoking.
- **Heart disease** The nicotine in tobacco greatly increases the risk of heart attack or stroke.
- **Weakened immune system** Long-term tobacco use harms the body's defenses against various diseases. Tobacco users are also more likely to get common illnesses such as coughs, colds, and allergies.

Reading Check

DESCRIBE What are two long-term and short-term effects of tobacco use? ■

LESSON 2

REVIEW

After You Read

1. **DEFINE** What does *emphysema* mean? Use it in an original sentence.
2. **SUMMARIZE** Describe the ways in which smoking harms the systems in the body.
3. **IDENTIFY** What is the leading cause of death among people who smoke?

Thinking Critically

4. **ANALYZE** Which of the health risks associated with tobacco use do you consider the most serious? Explain your answer.
5. **APPLY** Bethany is at a party where another girl lights a cigarette. When Bethany points out that smoking is bad for her health, the other girl shrugs. "I'm a strong person," she says. "I can quit any time I want to." How might Bethany reply?

Applying Health Skills

6. **ACCESS INFORMATION** Conduct more research into the harmful effects of tobacco. Use health journals, magazines, and web sites of national organizations. Write a short report about the information you find.

Review

Audio



Before You Read

QUICK WRITE Make a list of habits you know are hard to break. Choose one that interests you and write a paragraph describing what you think it would be like to change that habit.

Video

As You Read

STUDY ORGANIZER Make the study organizer found in the FL pages in the back of the book to record the information presented in Lesson 3.

Vocabulary

- > addiction - not online
- > psychological dependence
- > physical dependence
- > tolerance - not online
- > withdrawal
- > relapse

Audio

Bilingual Glossary

Cultural Literacy

Smokeless Tobacco Smokeless tobacco includes chewing tobacco and a finely ground tobacco known as snuff. The CDC has found that about 11 percent of teen boys and 2.2 percent of teen girls have used smokeless tobacco. However, it is not a safer alternative to smoking. Smokeless tobacco causes a variety of health problems, including white patches in the mouth that can lead to oral cancer.

LESSON 3

Tobacco Addiction

BIG IDEA Tobacco contains nicotine, which is an extremely powerful and addictive drug.

A POWERFUL DRUG

MAIN IDEA Tobacco contains strong substances that make it difficult to stop using once a person has started.

Many people know the dangers of tobacco use, but they continue to use it over many years. As you have learned, tobacco contains nicotine. Nicotine is a powerful drug that causes **addiction**, or *a mental or physical need for a drug or other substance*. Scientific studies have shown that nicotine is as addictive as powerful drugs such as cocaine or heroin. This addiction is both psychological and physical.

The Path to Addiction

When nicotine enters the body, it interacts with receptors in the tobacco user's brain. The brain sends a message to the body to speed up heart and breathing rates. As heart and breathing rates return to normal, the user wants more. Tobacco use soon becomes a habit, and a user can quickly become addicted.

Nicotine is as addictive as powerful drugs such as cocaine or heroin.

Studies have shown that as many as 90 percent of adult smokers began using tobacco before the age of 18. Teens are more likely to develop a severe level of addiction than people who begin smoking at a later age. Teens who use tobacco are also much more likely to use drugs such as marijuana, cocaine, and alcohol. For example, a recent national survey shows that more than 90 percent of cocaine users smoked cigarettes before they started using cocaine. Another study has shown that nicotine addiction may lead to other addictions.

Reading Check

DESCRIBE Why is it especially risky for teens to try tobacco?

Tobacco use leads to nicotine addiction. Once a person is addicted to the nicotine in tobacco, it becomes very difficult to quit. Here are some facts about how people become addicted to tobacco use:

- The government has found that tobacco companies market to young people. Some people start using tobacco as early as age 11 or 12.
- Research has shown that every day in the United States, more than 6,000 teens and preteens try their first cigarette or other form of tobacco.
- Teens can feel symptoms of nicotine addiction only days or weeks after they first start using tobacco. The symptoms of addiction are felt even before teens start to use tobacco regularly. This can be especially harmful since the teen years are a time of rapid growth and development.
- The earlier in life someone tries tobacco, the higher the chances that person will become a regular tobacco user. Early tobacco use also lowers the chances a person will ever be able to quit.



The best way to prevent tobacco addiction is to never start using tobacco. Explain why it is difficult to stop smoking once a person has started.

Health SKILLS ACTIVITY

Accessing Information

Quitting Tobacco Use

A person's physical dependence on nicotine makes it very hard to quit using tobacco. Some people cannot quit on their own. Sometimes they need help to overcome the physical addiction to nicotine. Two common methods for quitting are nicotine replacement and certain medications.

- * Nicotine replacement may involve nicotine gum, patches, or lozenges for tobacco users over age 18. Adults don't need a prescription for these treatments. You do need a prescription for nicotine inhalers and nasal sprays.
- * People who want to quit smoking may join support groups. They can find suggestions about how to stop from organizations such as the American Heart Association or the American Lung Association.



Use various resources to find valid information about a method of quitting tobacco use. Create an informative brochure covering how the method works and how it helps people deal with cravings for nicotine. Present your brochure to the class.

Physical and Psychological Dependence

Psychological dependence is a person's belief that he or she needs a drug to feel good or act normally. In other words, the desire for tobacco becomes greater than the fear of its dangers. **Physical dependence** is an addiction in which the body develops a chemical need for a drug. This can happen quickly for a person who uses tobacco. Teens can develop a physical dependence for nicotine even more easily than adults.

The desire for tobacco becomes greater than the fear of its dangers.

As you have learned, nicotine is a drug. As with any drug, the body will develop a **tolerance**, or a need for larger and larger amounts of a drug to produce the same effect. This grows over time and causes a tobacco user to crave nicotine. Anyone who quits tobacco goes through **withdrawal**. This is a series of symptoms a person experiences when he or she stops using an addictive substance. When a person goes through withdrawal from tobacco, cravings for nicotine typically increase. Someone who is trying to quit may also have mood changes, feel nervous or irritable, or be extra hungry.

The body undergoes physical changes when a person no longer uses tobacco. For example, the nicotine and carbon monoxide from tobacco are replaced by more oxygen in the blood. The extra oxygen is healthier for the body, but it may affect the brain and result in headaches or dizziness for a while. The extra oxygen in the blood may also cause a person who has quit to feel tingling in the fingers or toes. Since nicotine acts as a stimulant, someone who has stopped using tobacco may suddenly feel extra tired or sleepy.

Sometimes, the symptoms of nicotine withdrawal are so bad that a person starts using tobacco again. Many people who stop smoking have a **relapse**, which is a return to the use of a drug. Relapses are common during the first few months after a tobacco user quits.

The physical and psychological effects of withdrawal may lead a person to return to nicotine. However, if someone starts smoking again after working hard to quit tobacco, it can leave that person frustrated and angry. As a result, many people try to quit several times before they finally break the habit. Fortunately, many resources are available to help people either say no to tobacco before they start or to help them kick the habit for good.

Reading Check

DESCRIBE What are the symptoms of nicotine withdrawal?

LESSON 3

REVIEW

After You Read

1. **DEFINE** What does the term *addiction* mean? Use it in a complete sentence.
2. **IDENTIFY** What is the substance in tobacco that causes addiction?
3. **RECALL** Explain the difference between physical dependence and psychological dependence.

Thinking Critically

4. **SYNTHESIZE** Explain how a person becomes addicted to tobacco.
5. **ANALYZE** Why do you think it is important for a teen never to try tobacco?

Applying Health Skills

6. **REFUSAL SKILLS** Some teens try tobacco for the first time because of peer pressure. With a small group, brainstorm effective ways to say no when peers offer or suggest that you use tobacco. Make a list of the best ideas and share them with your class.





Costs to Society

BIG IDEA Tobacco has consequences in addition to the harm it causes tobacco users.

TOBACCO'S MANY COSTS

MAIN IDEA Tobacco use is costly to society.

You have learned about how harmful it is to use tobacco. Unfortunately, tobacco use includes many more costs. Society as a whole pays a price, and people who do not use tobacco may also experience health problems as a result. For example, tobacco companies spend more than \$34 million each day on marketing to encourage people to use tobacco products. Whether or not they use tobacco, U.S. taxpayers pay billions of dollars each year in federal taxes to treat the many health problems caused by tobacco use. In addition, many more costs and consequences are associated with tobacco use.

Costs to Smokers

Tobacco use is expensive. Researchers have determined that the average cigarette smoker uses one-and-a-half packs each day. The average price per pack in most states has risen to more than \$5.

This means the typical smoker spends more than \$8 per day on cigarettes. That adds up to \$250 over the course of one month, or \$3,000 per year. In ten years' time, the average smoker in the U.S. will have spent more than \$30,000 on cigarettes.

Society as a whole pays a price as a result of tobacco use.

Tobacco users also spend more money on health care. They pay higher health insurance rates than nonsmokers. Tobacco users can also expect to live shorter lives and have more health problems than people who do not use tobacco. This is especially true for females. Tobacco use shortens a woman's life by an average of five years. Fires are another health risk posed by smoking. Tobacco left burning is often the cause of fires at home. Carelessly discarded cigarettes or matches can also spark wildfires.

Costs to Nonsmokers

Even if you do not smoke, being around those who do can be harmful. Whenever people smoke near you, you breathe *air that has been contaminated by tobacco smoke* called **secondhand smoke** or environmental tobacco smoke (ETS). Secondhand smoke is filled with nicotine, carbon monoxide, and other harmful substances.

Secondhand smoke comes in two forms: mainstream smoke and sidestream smoke.

Mainstream smoke is the *smoke that is inhaled and then exhaled by a smoker*. **Sidestream smoke** is *smoke that comes from the burning end of a cigarette, pipe, or cigar*. The U.S. Environmental Protection Agency (EPA) has labeled secondhand smoke as a human carcinogen. This means it causes cancer.

Even if you do not smoke, being around those who do can be harmful.

A **passive smoker** is a *nonsmoker who breathes in secondhand smoke*. Adults who do not use tobacco but who regularly breathe secondhand smoke can get sick from it. They can have the same health problems as smokers. An estimated 46,000 nonsmokers die each year from heart disease. About 3,000 additional nonsmokers die of lung cancer each year.

Secondhand smoke is especially harmful to young children and people with asthma. When children are exposed to secondhand smoke, they are more likely to have respiratory and other health problems. Allergies, asthma, ear infections, bronchitis, pneumonia, and heart problems have all been linked to exposure to secondhand smoke.

Thank You For Not Smoking



Secondhand smoke is dangerous to everyone's health. Evaluate why smoke-free restaurants are considered to be healthier for customers and restaurant workers.

Costs to Unborn Children

Women who use tobacco while pregnant put their unborn children in serious danger. Their babies could be born too early or too small or even die. The lower a baby's birth weight, the higher the chances that the baby will have health problems. Sudden infant death syndrome (SIDS) is linked to babies whose mothers smoked during or after pregnancy. Babies who are born to mothers who used tobacco while pregnant may also grow and develop more slowly than other children. This can cause health issues throughout childhood.

Costs to Society

Tobacco not only harms the body, it costs the user and society a lot of money. Smoking and other forms of tobacco use have hidden costs. Two additional costs involved in tobacco use are:

- **Lost productivity.** Productivity is how much a person is able to finish in the time he or she works. People who use tobacco have lower productivity levels on the job. They are sick more often than nonsmokers and get less done. Lost productivity costs businesses a lot of money. The nation as a whole pays a large price too. The government estimates that smoking costs the U.S. economy \$96 billion per year in lost productivity.
- **Health care costs.** People who use tobacco tend to need more medical treatment than those who do not. If tobacco users have health insurance, it may help pay for some of their treatment. However, because health insurance companies face more costs to cover tobacco users, they charge higher rates for their insurance. If a tobacco user has no health insurance, the government helps cover the costs. This means that every family in the U.S. pays for tobacco use through their taxes.

Reading Check

IDENTIFY Name three groups of people affected by tobacco use.

Before You Read

QUICKWRITE Make a list of the costs associated with tobacco use. As you read, add costs to your list.



As You Read

STUDY ORGANIZER Make the study organizer found in the FL pages in the back of the book to record the information presented in Lesson 4.

Vocabulary

- › **secondhand smoke**
- › **mainstream smoke**
- › **sidestream smoke**
- › **passive smoker**



Developing Good Character

Citizenship Good citizens look out for the welfare of the community. The term *community* includes more than just your neighborhood. It also includes the environment and the air you breathe. Obeying laws that regulate smoking is one way of showing good citizenship. Brainstorm ways of showing good citizenship when it comes to tobacco.

COUNTERING THE COSTS OF TOBACCO USE

MAIN IDEA Laws and education protect nonsmokers and lower the cost of tobacco use to society.

According to the U.S. Centers for Disease Control and Prevention, each pack of cigarettes sold results in more than \$10 in added costs for health care and lost productivity. Some public action groups and Congress have investigated ways to lower these costs. New laws have been proposed that would restrict or even ban the manufacture and sale of tobacco products. Many smokers, however, claim that such restrictions would interfere with their constitutional rights.

Tobacco Taxes

One important action has been taken to reduce the cost of tobacco use to society. Taxes are now added to each pack of cigarettes sold in the United States and in certain states. For example, there is a federal excise tax that adds \$1 to the price of each pack of cigarettes.

Additional taxes make it more costly to buy tobacco products and give the government more money to educate people about the dangers of tobacco use.

Each pack of cigarettes sold results in more than \$10 in added costs for health care and lost productivity.

Smoke-Free Environments

Many state and local governments have tried to lower the cost to nonsmokers through laws that ban smoking in public spaces. This protects nonsmokers from dangerous secondhand smoke. It has become common to find businesses and restaurants where smoking indoors or even outdoors is not allowed. These laws protect the health of all restaurant patrons.

Federal law requires that cigarette packages have one of four different warning labels. *Describe the goal of tobacco warning labels.*

Some towns and cities have even made it illegal to smoke in certain outdoor locations, such as beaches, playgrounds, and gardens. The federal government has also passed laws to protect the rights of nonsmokers. For example, since 1989, it has been illegal to smoke on all airplane flights in the United States.

Labeling Laws and Advertising Limits

Laws now control the ways that tobacco companies are allowed to market and sell tobacco products. Cigarette packages must have clear warning labels, or disclaimers. The disclaimers state clearly that smoking is harmful. Cans and pouches of smokeless tobacco must also display similar disclaimers. The same laws apply to advertisements for tobacco.

Limits on tobacco advertising are more extensive than ever before. In the United States, laws protect young people from tobacco advertisements. For example, tobacco companies cannot place outdoor ads within 1,000 feet of schools and playgrounds or advertise on television or radio. They cannot make or sell promotional hats, T-shirts, and other items. This is why tobacco companies try to place their products in the media being used by celebrities. It allows them to work around the laws in place.

Antismoking Campaigns

Anti-tobacco ads are helping create awareness about the dangers of tobacco use. The goal is to send a message to people of every age that using tobacco is a risk behavior. Antismoking ads also explain that tobacco use has many negative consequences. Smokers who see these ads may recognize the dangers of tobacco. As a result, they may quit or seek treatment. The ads can help nonsmokers recognize the benefits of remaining tobacco free.

Antismoking ads are helping create awareness about the dangers of tobacco use.

State and local governments are also making efforts to stop tobacco use. Most communities enforce laws against selling tobacco to minors. Smoking is often prohibited on school grounds. States have sued tobacco companies to recover costs to the public related to tobacco use. Part of the money awarded in these cases has helped fund anti-tobacco campaigns. Many communities plan activities to promote healthy lifestyles. Individuals can also help to stop or limit tobacco use. You can do your part by encouraging others to avoid tobacco use.

Reading Check

SUMMARIZE What actions have been taken to lower the cost to society of tobacco use? ■

Smoke free areas in the community help promote healthy lifestyles.

Describe how no smoking signs placed throughout the community can help promote healthy lifestyles.



LESSON 4

REVIEW

After You Read

- 1. DEFINE** Explain what the terms *sidestream smoke* and *mainstream smoke* mean. Use both terms in complete sentences.
- 2. IDENTIFY** What health care costs are involved with tobacco use?
- 3. DESCRIBE** Explain the effects smoking can have on unborn babies and children.

Thinking Critically

- 4. ANALYZE** How can laws to protect you from secondhand smoke help to protect your health?
- 5. EXPLAIN** What solutions have been offered for the problems of tobacco use? Explain how these solutions seem to help lower the costs of tobacco use to society.

Applying Health Skills

6. ACCESS INFORMATION

Research the latest government restrictions on tobacco companies or advertisements. Write a paragraph describing your findings.

Review

Audio



LESSON 5

Saying No to Tobacco Use

BIG IDEA It is important to have strategies to resist the strong influences around tobacco use.

Before You Read

QUICK WRITE Write a short dialogue between yourself and a peer who wants you to try tobacco. Show how you can politely but firmly refuse.



As You Read

STUDY ORGANIZER Make the study organizer found in the FL pages in the back of the book to record the information presented in Lesson 5.

Vocabulary

- target audience
- product placement
- point-of-sale promotion
- cold turkey
- nicotine replacement therapies



Fitness Zone

Fitness Calendar To stay healthy and tobacco free, it helps me to have an activity calendar. I can set goals for how much physical activity I want to get each day. When I choose new activities to try, it makes it more interesting. I also like to use an online diary to keep track of how well I am doing with my goal.

WHY DO TEENS USE TOBACCO?

MAIN IDEA Many sources can influence teens to try tobacco.

With all the risks you have read about in this chapter, you may wonder why any teen would use tobacco. Many influences pressure teens to try tobacco or make it look appealing. In this lesson, you will learn more about those factors and about ways to stay tobacco free.

Influence of Peers and Family

Peer pressure is one of the major reasons that teens try tobacco. People are more likely to use tobacco if their friends use it. Some teens use tobacco in order to fit in with their friends. Others use tobacco because they think it makes them seem cooler or more mature. Others think smoking

will help them feel more confident around others. It is important to choose friends who encourage you to make healthful choices, such as committing to be tobacco free.

It is important to choose friends who encourage you to make healthful choices.

It is also common for teens to start smoking when tobacco is used in their homes. Similar to peer pressure, families can pressure teens into using tobacco even if family members do not directly encourage smoking. For example, parents may warn against the dangers of tobacco use, but they may smoke. Having a sibling who smokes may also encourage tobacco use. Other reasons teens try tobacco include wanting to rebel, being curious, or thinking that the health risks do not apply to them.

Reading Check

DESCRIBE Explain how teens are influenced by their peers to use tobacco.

Influence of the Media and Advertising

Another negative influence on teen smoking is the media. Although efforts have been made to reduce this influence, it is still common. Television shows, movies, and video games often show characters having fun while smoking. An estimated one-third of popular movies made for children and teens still show images of people smoking.

Tobacco companies spend millions of dollars to advertise their products. Colorful ads show happy, attractive people smoking. Nine out of ten smokers start smoking by age 18.

Here is what teens across the United States said in response to statements about tobacco use. Evaluate how you would respond to these statements.

	Agree	Disagree	No Opinion or Do Not Know
Seeing someone smoke turns me off.	67%	22%	10%
I would only date people who don't smoke.	86%	8%	6%
It is safe to smoke for only a year or two.	7%	92%	1%
Smoking can help you when you're bored.	7%	92%	1%
Smoking helps reduce stress.	21%	78%	3%
Smoking helps keep your weight down.	18%	80%	2%
Chewing tobacco and snuff cause cancer.	95%	2%	3%
I strongly dislike being around smokers.	65%	22%	13%

Source: Centers for Disease Control and Prevention.

Eighty percent of underage smokers use the three most-advertised brands. Tobacco companies see teens as a **target audience**, or a group of people for which a product is intended.

One key strategy tobacco companies use is **product placement**, which is a paid arrangement a company has made to show its products in media such as television or film. If you see a favorite celebrity smoking, it could have a strong influence on you. This would be especially true if you did not know how harmful tobacco products are to your health. Tobacco companies use another strategy to get shoppers' attention as they wait to pay for other items. **Point-of-sale promotions** are advertising campaigns in which a product is promoted at a store's checkout counter.

Health SKILLS ACTIVITY

Refusal Skills

Refusing Tobacco

Sindhu and Andrea have been friends since the third grade. Now they are older and go to different schools. Andrea spends much of her time with her new friends. One day they meet after school, and Andrea offers Sindhu a cigarette. Sindhu wants to keep her friend, but she does not want to smoke. What should she say to Andrea? Remember the S.T.O.P. strategy:

- * Say no in a firm voice
- * Tell why not.
- * Offer another idea.
- * Promptly leave.



Role-play how Sindhu reacts when Andrea asks her to have a cigarette. How can Sindhu use the S.T.O.P. formula in this situation?



RESISTING TOBACCO USE

MAIN IDEA Knowing how to resist tobacco will help you stay tobacco free.

You can protect your health now and in the future if you make a commitment to stay tobacco free. If you make that choice, you will enjoy better physical, mental/emotional, and social health. Ninety percent of adult smokers start smoking before age 18. If you avoid tobacco use as a teen, you will greatly decrease the chance that you will smoke as an adult.

Reasons to Say No

Being tobacco free is a safe behavior that includes many benefits. A healthier body is just one of those benefits. Read the list below to learn more.

- **Overall health.** People who smoke get sick more easily and more often than nonsmokers.

- **Clear, healthy skin.** If you use tobacco, your skin cells are less able to take in oxygen and other important nutrients.
- **Fresh breath.** Cigarettes and smokeless tobacco products cause bad breath.
- **Clean, fresh-smelling clothes and hair.** Smokers usually smell like smoke. Stinky cigarette odors stick to clothes and hair and are not easy cleaned.
- **Better sports performance.** Nonsmokers are usually better athletes than smokers because they can breathe more deeply and are more healthy overall.
- **Money savings.** Tobacco is expensive. Increased taxes on tobacco mean the costs will keep going up. Teens who do not buy tobacco will have more to spend on other items such as clothes and music.

- **Environmental health.** By staying tobacco free, you help reduce secondhand smoke. You are also protecting the people around you.

Ways to Say No

You take responsibility for your health when you choose not to use tobacco. Choose to spend time with others who are tobacco free. Be prepared to be asked if you want to try tobacco. Practice your refusal skills to help you make the best decision. You can practice saying no in an assertive style that shows you are serious but also that you respect others. Speak in a firm voice with your head up. This will tell others you mean what you say.

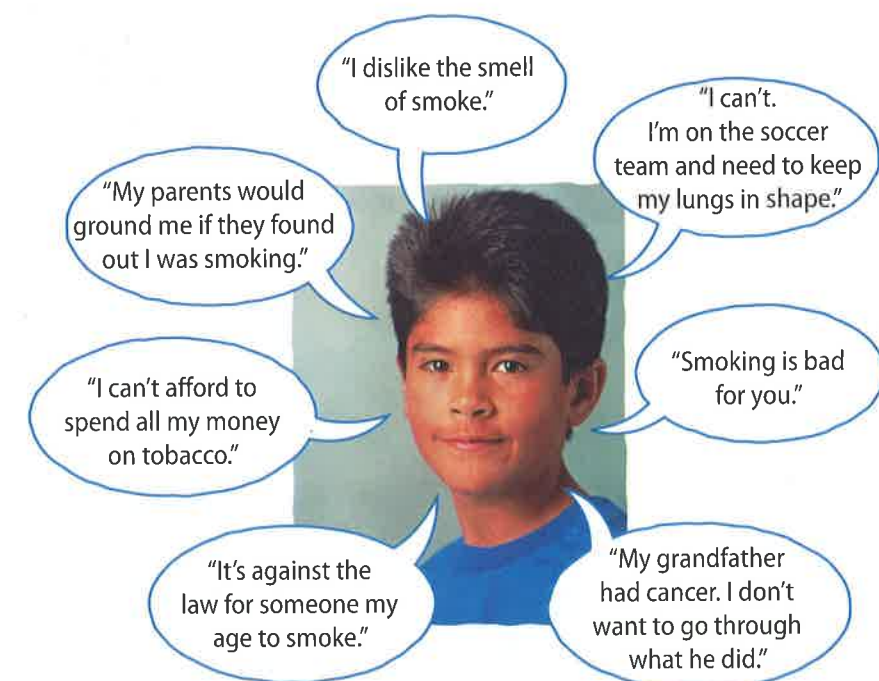
Your Rights as a Nonsmoker

You have the right to breathe air that is free of tobacco smoke. Many laws are in place to protect nonsmokers. It has become easier to find smoke-free places. As a nonsmoker, you can ask people not to smoke around you.

Reading Check

GIVE EXAMPLES Identify three ways you can say no to tobacco.

If someone offers you tobacco, here are some ways to say no. Identify some other ways you can refuse tobacco.



BREAKING THE TOBACCO HABIT

MAIN IDEA Many resources are available to people who want to be tobacco free.

Some of the damage done by smoking can never be reversed. However, quitting tobacco does prevent more damage to the body and will improve a person's overall health. The process can be difficult, but there are many resources available.

Some of the damage done by smoking can never be reversed.

The body goes through physical changes when a person no longer uses tobacco. Learning to live without tobacco takes time and a lot of willpower. Tobacco users often try a variety of methods to try to quit before they find one that works for them.

Some people may choose to stop by going **cold turkey**, which means **stopping all use of tobacco products immediately**. The cold turkey method can be difficult for people because they need help breaking the addiction to nicotine. They will experience withdrawal symptoms for up to six months. One source of help is **nicotine replacement therapies** (NRTs), which are **products that assist a person in breaking a tobacco habit**. NRTs include nicotine gums, lozenges, and patches worn on the skin.

Many organizations also help users quit. For example, tobacco users can find tips and support groups through the American Lung Association, the American Heart Association, or the American Cancer Society. Some schools now have programs to help teens who want to quit using tobacco. If you know someone who is trying to get rid of a tobacco habit, you can share the following information:

- List your reasons.
- Get support and encouragement from family or friends.
- Set small goals.
- Choose tobacco-free places to spend time.
- Change your tobacco-related habits.
- Be physically active.
- Keep trying.

In addition to the types of health organizations noted above, other good sources of information for people who want to quit include hospitals, web sites, and libraries. Doctors and nurses can also be helpful in helping people quit tobacco use. Medical professionals can offer advice about ways to deal with the symptoms of nicotine withdrawal. Doctors may also prescribe certain NRTs for those unable to quit on their own.

Reading Check

DEFINE What are nicotine replacement therapies? ■

LESSON 5

REVIEW

After You Read

1. **DEFINE** Explain what the term *cold turkey* means. Use it in a complete sentence.
2. **IDENTIFY** List at least three benefits of being tobacco free.
3. **SUMMARIZE** Explain how people who wish to stop using tobacco can get help.

Thinking Critically

4. **INFER** Why is it easier never to start using tobacco than it is to quit once you have started?
5. **APPLY** How would you influence a peer to make the healthful choice to quit smoking?

Applying Health Skills

6. **GOAL SETTING** Make a plan to help someone quit using tobacco. Research what resources are available online. Include alternative activities the tobacco user can do when he or she experiences the urge to use tobacco.

Review

Audio

Hands-On HEALTH ACTIVITY

Inside Your Lungs

WHAT YOU WILL NEED

- * 64 sugar cubes
- * Cellophane tape
- * One sheet of graph paper

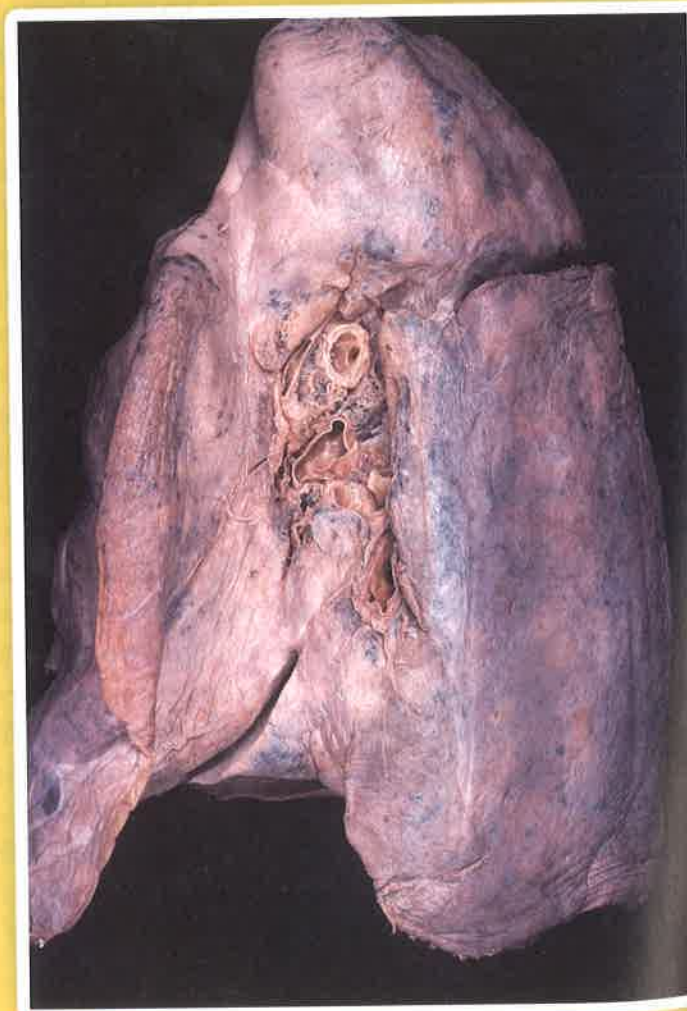
WHAT YOU WILL DO

- 1 Use the sugar cubes to make a square that is 4 cubes long, 4 wide, and 4 deep.
- 2 Use tape to hold the sugar cubes together.
- 3 Use the graph paper to figure out how many paper squares can be covered by the large sugar rectangle.
- 4 Remove the tape and measure how many paper squares can be covered by a single cube. Remember to record all six sides.
- 5 Multiply this single cube measurement by 64.

WRAPPING IT UP

Which covers more graph paper squares: the large sugar rectangle or the 64 cubes? The cubes represent your alveoli. Just breathing in does not get oxygen to your body cells. It only gets it to your lungs. Alveoli pass oxygen to your blood. Dividing the lungs into many smaller sacs (alveoli) gets more oxygen to your blood faster. Warm-blooded animals like us need this trick. We need to get oxygen at a fast enough rate to perform all our activities.

You've learned that smoking affects your lungs. Do you remember what's inside your lungs? Each lung contains millions of little sacs called alveoli. When you inhale, oxygen and anything else you breathe makes its way into these 600 million little sacs. Blood vessels surround the alveoli. They pick up oxygen from the alveoli and carry it to your cells. Smoking makes the alveoli less able to handle the oxygen your body needs.



CHAPTER 14

READING REVIEW

FOLDABLES and Other Study Aids

Take out the Foldable® that you created and any study organizers that you created. Find a partner and quiz each other using these study aids.

LESSON 1 Facts About Tobacco

BIG IDEA The substances contained in tobacco products are very harmful to your health.

- * Tobacco is a harmful and addictive substance in all its forms—cigarettes, cigars and pipes, and smokeless.
- * Tobacco contains many chemicals that can harm your body, including nicotine, tar, and carbon monoxide.

LESSON 2 Health Risks of Tobacco Use

BIG IDEA Tobacco is a dangerous drug with serious health consequences.

- * Health experts have been warning about the dangers of tobacco for many years.
- * Tobacco use causes many serious health problems, such as emphysema, lung cancer, and heart disease.

LESSON 3 Tobacco Addiction

BIG IDEA Tobacco contains nicotine, which is an extremely powerful and addictive drug.

- * Tobacco contains strong substances that make it difficult to stop using once a person has started.
- * Tobacco use results in both physical and psychological dependence on nicotine.

LESSON 4 Costs to Society

BIG IDEA Tobacco has consequences in addition to the harm it causes tobacco users.

- * Tobacco use is costly not only to smokers but also to nonsmokers.
- * Added health care expenses and lost productivity are major costs to society as a result of tobacco use.
- * Laws and education help protect nonsmokers and lower the cost of tobacco use to society.
- * Efforts to counter the costs of tobacco use include tobacco taxes, smoke-free environments, labeling laws, and advertising limits.

LESSON 5 Saying No to Tobacco Use

BIG IDEA It is important to have strategies to resist the strong influences around tobacco use.

- * Influences that can lead teens to try tobacco may come from peers, family, the media, and advertising.
- * Knowing how to resist tobacco, including the reasons to say no, will help you stay tobacco free.
- * Resources available to people who want to be tobacco free include certain medical products along with various organizations and support groups.



Review



Web Quest

ASSESSMENT

Reviewing Vocabulary and Main Ideas

- physical dependence withdrawal nicotine lungs smokeless tobacco carbon monoxide addiction cardiovascular emphysema

» On a sheet of paper, write the numbers 1–9. After each number, write the term from the list that best completes each statement.

LESSON 1 Facts About Tobacco

- _____ is an addictive drug found in tobacco leaves and in all tobacco products.
- A poisonous, odorless gas found in tobacco smoke is _____.
- _____ is ground tobacco that is chewed or inhaled through the nose.

LESSON 2 Health Risks of Tobacco Use

- Tobacco smoke damages the air sacs in the lungs, which can cause _____.
- Tobacco use affects the circulatory or _____ system, which includes the heart and blood vessels.
- Cancer of the _____ is the leading cause of death among people who smoke.

LESSON 3 Tobacco Addiction

- Anyone who stops using tobacco goes through nicotine _____.
- Nicotine is a powerful drug that causes _____.
- _____ on nicotine involves the body developing a chemical need for the drug.

» On a sheet of paper, write the numbers 10–15. Write *True* or *False* for each statement below. If the statement is false, change the underlined word or phrase to make it true.

LESSON 4 Costs to Society

- Whenever people smoke near you, you breathe their secondhand smoke, or environmental tobacco smoke (ETS).
- Many state and local governments have tried to lower the cost to nonsmokers through laws that require smoking in all public spaces.
- Tobacco products are required to carry clear labels or disclaimers saying that smoking is healthful.

LESSON 5 Saying No to Tobacco Use

- Peer pressure can help you say no if you are pressured to try tobacco.
- Some people may choose to stop using tobacco suddenly and completely, or by going cold turkey.
- Ninety percent of adult smokers start smoking after age 18.

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

Thinking Critically

- APPLY** Nadine smells tobacco on her sister Shari's hair and clothes one afternoon. How could Nadine talk to her sister about the tobacco smell without accusing her of smoking?
- SYNTHESIZE** Explain how someone becomes addicted to tobacco. Include facts about addiction and a description of the path to addiction.

Write About It

- PERSONAL WRITING** Write a story about a teen who is faced with a difficult decision. The teen has to decide whether to join a club in which the members smoke and use other tobacco products. Use the six steps of the decision-making process to show how the teen makes a healthful choice.

STANDARDIZED TEST PRACTICE

Math

Use the directions and chart below to answer the questions on the right.

In order to run the marathon, Melissa knows she needs to stay tobacco free. To qualify for the race, she needs to improve the time it takes her to run one mile. She tracks her time on a weekly basis. Refer to the chart below to see Melissa's progress.

Week	Time to run 1 mile (min)
1	16
2	11
3	9
4	8

- By what percent did Melissa improve her time from Week 2 to Week 3?
A. 15%
B. 18%
C. 20%
D. 23%
- During which time did Melissa show a 50 percent improvement?
A. From Week 1 to Week 2
B. From Week 1 to Week 4
C. From Week 2 to Week 4
D. From Week 3 to Week 4