### Lessons

<table>
<thead>
<tr>
<th></th>
<th>Lessons</th>
<th>Standards</th>
<th>Features</th>
</tr>
</thead>
</table>
| 1 | Maintaining a Healthy Weight           | National Health Education Standards 1.6, 3.4, 7.2 | Should Schools Limit the Use of Vending Machines?  
page 149                        |
|   |                                        | State/Local                                    |                                               |
| 2 | Fad Diets and Eating Disorders         | National Health Education Standards 2.6, 7.4, 7.6 | Fad Diets Harm Health (Advocacy), page 153     |
|   |                                        |                                               |                                               |
| 3 | Nutrition for Individual Needs         | National Health Education Standards 6.1, 6.3, 7.4 | Meatless Meals (Practicing Healthful Behaviors), page 160 |
|   |                                        |                                               |                                               |

### Standards

- National Health Education Standards
  - 1.6, 3.4, 7.2
  - 2.6, 7.4, 7.6
  - 6.1, 6.3, 7.4

### Features

- **Exploring Issues**
  - Should Schools Limit the Use of Vending Machines?  
  page 149

- **Hands-On Health**
  - Fad Diets Harm Health (Advocacy), page 153

- **Health Skills Activity**
  - Helping a Friend Get Help (Decision Making), page 155

- **Real-Life Application**
  - Meatless Meals (Practicing Healthful Behaviors), page 160
<table>
<thead>
<tr>
<th>Reproducible Resources</th>
<th>Assessment</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Activity Workbook for use with each chapter</td>
<td>Lesson Quiz 20</td>
<td>Transparency 17</td>
</tr>
<tr>
<td>Concept Mapping Activity 20</td>
<td></td>
<td>TeacherWorks&lt;sup&gt;®&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cross-Curriculum Activity 6</td>
<td></td>
<td>Internet Activities</td>
</tr>
<tr>
<td>Decision-Making Activity 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrichment Activity 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guided Reading Activities 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Plan 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Letter and Activities 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reteaching Activity 20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If time does not permit teaching the entire chapter use:
- Figure 6.2, p. 148
- Hands-On Health, p. 153
- Health Skills Activity, p. 155
- Real-Life Application, p. 160

<table>
<thead>
<tr>
<th>Language Diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Audio CD Program</td>
</tr>
<tr>
<td>Spanish Audio CD Program</td>
</tr>
<tr>
<td>English Summaries, Quizzes, and Activities</td>
</tr>
<tr>
<td>Spanish Summaries, Quizzes, and Activities</td>
</tr>
<tr>
<td>Spanish Parent Letters and Activities</td>
</tr>
</tbody>
</table>

### Key to Ability Levels

Teaching strategies that appear throughout the chapter have been identified by one of the following codes to give teachers an idea of their suitability for students of varying learning styles and abilities.

- **1**: Strategies should be within the ability range of all students. Full class participation is often required. Teacher direction is usually needed.
- **2**: Strategies are designed for average to above-average students or for small groups. Some teacher direction is needed.
- **3**: Strategies are designed for students able and willing to work independently. Minimal teacher direction is needed.
- **4**: Strategies should be within the ability range of students learning the English language.
- **5**: Block scheduling strategies are useful in a block scheduling format.

### End of Chapter Assessment

<table>
<thead>
<tr>
<th>Blackline Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 6 Test</td>
</tr>
<tr>
<td>Performance Assessment Activity 6</td>
</tr>
<tr>
<td>Unit 2 Test</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary PuzzleMaker</td>
</tr>
<tr>
<td>MindJogger Videoquiz</td>
</tr>
<tr>
<td>ExamView&lt;sup&gt;®&lt;/sup&gt; ProTestmaker</td>
</tr>
</tbody>
</table>

### Professional Health Series

Dealing with Sensitive Issues Planning a Coordinated School Health Program Promoting Character Education Home, School, and Community Involvement
Managing Weight and Body Composition

CHAPTER OVERVIEW

Chapter 6 discusses weight management, fad diets, eating disorders, and the specific nutritional needs of such individuals as athletes and vegetarians.

Lesson 1  Weight management is really an issue of energy intake and expenditure. An effective weight-management plan involves developing healthy eating habits and being physically active throughout life.

Lesson 2  Fad diets and other quick weight-loss strategies carry certain risks. An obsession with thinness, along with psychological pressures, can lead to eating disorders, including anorexia nervosa, bulimia nervosa, and binge eating disorder. These disorders require medical assistance and psychological counseling.

Lesson 3  Many people—including infants, children, older adults, athletes, vegetarians, and pregnant women—have specific nutritional needs. Dietary supplements may be appropriate for some people, but must be used carefully. Nutritional needs change throughout a person’s life.

Health Skills Features

- Exploring Issues, p. 149
- Health Skills Activity (Decision Making), p. 155
- Real-Life Application (Accessing Information), p. 160

INCLUSION STRATEGIES

Language Diversity  Use the following suggestions to help students who have difficulty with English:

- Pair English language learners with native speakers of English who can restate the Chapter Summary in language that helps students comprehend important concepts.

- Direct auditory learners or those students with language diversity to the Glencoe Health Audio CD Program. Available in English and Spanish, this component provides an audio and written summary of the chapter.

- Use photographs, drawings, or magazine clippings to help students visualize the important concepts of the chapter.
Kevin’s Story

Kevin has always had a weight problem. When he was younger, it didn’t seem to matter much that he was a little bigger than the other boys. In fact, the extra weight came in handy when playing his favorite sport—football.

Now Kevin is 15, and things seem very different to him. He’s worried about how he looks and feels. “Being overweight is supposed to be a girl’s problem,” says Kevin. “It’s embarrassing that I have to worry about my weight.”

Kevin finds it difficult to make healthy food choices. He often eats at fast-food restaurants and snacks on candy bars and potato chips. He also doesn’t get much physical activity.

In the past Kevin has tried quick fixes to lose weight. “One time I went on a fad diet, but that didn’t really work,” says Kevin. “I lost weight at first, but then I started feeling really run down, so I went back to my old way of eating. Before I knew it, I had regained all the weight I lost, plus a few extra pounds.”

Kevin knows he has to change his lifestyle in order to lose weight, but he doesn’t know what steps to take.

For instant feedback on your health status, go to Chapter 6 Health Inventory at health.glencoe.com.

Have students read and briefly discuss Kevin’s story. Ask: Why have Kevin’s previous attempts at weight loss failed? How are his current eating and activity habits hindering his progress? After students have written down their advice to Kevin, have volunteers read their paragraphs aloud. Lead the class in discussing the steps Kevin might take to lose weight healthfully. Remind students that they will reread this story and their responses after completing this chapter.

Display a number of diet books in your classroom. Ask students why they think there are so many books written on this subject. Ask each student to select one book and read about the author’s professional training and experience. Discuss the levels of training in nutrition for various professionals. Point out that nutritionists are the most highly trained in this field. Tell students they will learn more about weight management, including healthy ways to lose or gain weight, in this chapter.
When you look in the mirror, how do you feel about what you see? Are you happy with the way you look, or do you wish some things were different? The way you see your body is called your **body image**. Body image is affected by several factors, including media images and the attitudes of family and friends.

For many people body image is tied to perception of weight. Your own healthy weight probably won’t be the same as the weight of a fashion model, a bodybuilder, or your best friend. However, you can use some general guidelines to assess your weight and keep it within a healthy range.

### The Weight-Calorie Connection

To understand how to manage your weight effectively, it’s important to understand calories. As you’ve learned, calories are units used to measure energy—both the energy in food and the energy your body uses for life processes and physical activities. Maintaining a healthy weight, even while you’re growing, is a matter of energy balance: the calories you consume must equal the calories your body burns.
Calories: Their Source

Some foods have more calories than others. The specific number of calories depends on portion size as well as the amounts of carbohydrates, proteins, and fats in the food. Both carbohydrates and proteins supply four calories per gram. Fats supply more than twice that number—nine calories per gram. For this reason, even small amounts of fat in a food greatly increase its calorie content. The way a food is prepared or cooked also affects the calorie count.

The Energy Equation

Tipping the balance of the energy equation will result in weight loss or gain. If you take in fewer calories than you burn, you lose weight. If you take in more calories than you burn, you gain weight.

One pound of body fat equals about 3,500 calories. Eating 500 fewer calories per day than you need to maintain your weight will result in the loss of one pound of body fat after one week (500 calories per day / 7 days = 3,500 calories). Burning an additional 500 calories per day through physical activity would result in a similar weight loss.

Determining Your Appropriate Weight Range

Your appropriate weight is influenced by several factors, including gender, age, height, body frame, growth rate, metabolic rate, and activity level. As a teen you are still growing, so you need more calories than an adult does. Tall and large-framed people need more calories than short and small-framed people. Because an active person burns more calories than a sedentary person does, he or she can consume more calories without gaining weight than a sedentary person can.

Body Mass Index

One way to evaluate whether your weight is within a healthy range is to determine body mass index. Body mass index (BMI) is a ratio that allows you to assess your body size in relation to your height and weight. Because BMI for children and teens takes age and gender into account, different charts are used for males and females. Figure 6.1 on page 146 explains how to determine your BMI. A different chart is used for adults.

As you calculate your BMI, keep in mind that many different ratios of height to weight can be healthy. Teens grow at different rates and in different ways. There is no single size, shape, or growth pattern that’s normal for everyone.

Community Involvement

Have students examine the contents of any vending machine at school or in the community and make a list of the foods and beverages offered. Tell them to analyze the nutrients in the foods and beverages, noting especially the amounts of sugars in each. Ask them to report their findings to the class.

Explaining

Provide food-related magazines for students to collect pictures of high-calorie foods and drinks that total about 3,500 calories. Explain that this is the number of calories that would have to be cut out of an individual’s eating plan each week to result in the loss of 1 pound of body fat.

Cooperative Learning

Have students work in small groups. Have them apply their understanding of sound nutritional principles to create menus for a restaurant for health-conscious people. The menus might include symbols for low-sugar, low-sodium, and low-fat foods. Have each group present their menu to the class for feedback.

Energy for Work

People’s daily calorie requirements vary by occupation. Some physically active workers burn more calories than office workers, for example. Instruct students to choose an occupation such as dancer, professional athlete, construction worker, window washer, or farm laborer. Have them find the number of calories burned while engaged in specific movements. In many cases they may need to research movements similar to those used in the work performed. Suggest that they use their research to calculate how much the workday calorie requirement of such a worker exceeds that of a word processor of the same size, age, and gender.
Chapter 6 • Lesson 1

**Visual Learning**

Figure 6.1 Guide students in learning how to use the chart in Figure 6.1 for determining BMI. For practice, ask them to determine the BMI of a few sample teens, such as a female teen who is 5'6" and weighs 125 pounds and a male teen who is 5'8" and weighs 180 pounds. When students demonstrate knowledge of how to use the chart, have them determine their own BMI. As always, maintain student privacy.

**Discussing**

Ask students why males of a certain height and frame size weigh more than females of the same height and frame size. Males' small frames are larger than females' small frames. Males tend to have more muscle tissue, which is dense. Females have more fat tissue, which is less dense.

**Explaining**

Tell students that pinching a fold of skin and measuring its thickness is one way of telling if a person has excess body fat. This is because extra fat is stored under the skin. Average male bodies are made up of approximately 12.5 percent fat, and average female bodies are on average made up of approximately 20 percent fat.

**Determining BMI**

Use this formula to find your BMI:

\[
\text{BMI} = \frac{\text{weight (in pounds)}}{\text{height (in inches)}^2} \times 703
\]

Here’s how to find the BMI for a 16-year-old male who weighs 145 pounds and is 65 inches tall:

\[
\begin{align*}
\text{BMI} &= \frac{145 \times 703}{65^2} \\
&= \frac{101,935}{4,225} \\
&= 24.12 \text{ or } 24
\end{align*}
\]

Find this result in the chart. This teen’s BMI indicates that he is within an appropriate weight range.

Source: Adapted from CDC information

If your BMI falls above the 85th percentile or below the 5th percentile, consult a health care professional for further evaluation. However, keep in mind that this does not necessarily mean that you are overweight or underweight.

**Body Composition**

Body composition, or the ratio of body fat to lean body tissue, needs to be taken into account when assessing weight. Diet and fitness affect a person’s body composition. For example, a weight-lifting program will increase muscle mass. A high-calorie diet can increase the amount of stored body fat.

**Body Weight versus Body Fat**

The terms overweight and obesity are often used interchangeably, but they are not the same. Overweight is a condition in which a person is heavier than the standard weight range for his or her height. Obesity refers specifically to having an excess amount of body fat. Being overweight or obese can endanger health. In certain cases being overweight may not pose health risks. Athletes such as bodybuilders or football players may be overweight because of excess muscle tissue rather than excess body fat.

**Weight-Related Health Risks**

BMI for adults serves as a general guide to evaluate some health risks. Adults with high BMIs are at increased risk of cardiovascular disease; type 2 diabetes; cancer; high blood pressure; and osteoarthritis, a joint disease. Maintaining a healthy weight can help prevent the development of these diseases.

**Analyzing Food Influences**

In the United States, many health problems result from dietary excess. People eat for many reasons, only one of which is hunger. The sight or smell of food may be tempting, and numerous social functions involve food. In some parts of the world, people eat whatever is available, and many health problems result from hunger or nutritional deficiencies. Have students list what they ate during the past 24 hours, the time they ate, and their reason for eating. Suggest that they consider the following influences: hunger, temptation, boredom, stress, scheduled meals, social occasions, enjoyment, and comfort. Have them speculate about how their reasons would differ if food were scarce or hard to obtain.
Physical activities such as swimming burn calories and can help you manage your weight. What other physical activities can help you manage your weight?

Underweight: A Health Risk

Some teens are very thin while they are growing. Being thin may also be normal because of genetics or a fast metabolism. Other people, however, diet or exercise excessively to stay thin. A person who is too thin has little stored fat to provide the body with an energy reserve and may not be consuming enough calories and nutrients for health and growth. This may lead to fatigue and a decreased ability to fight illness. How do you know whether you are underweight?

Underweight refers to a condition in which a person is less than the standard weight range for his or her height. A healthcare professional can help you determine whether you are underweight.

Math Have students compute how many calories they need to maintain their present weight. Ask them to compare this figure to the total number of calories they consume in a day.

History Ask students to research how society’s view of the ideal figure has changed through the years. Have them create a display or time line illustrating their findings.

Family and Consumer Sciences Have students plan a week’s worth of menus to meet their individual goals of healthy weight management.
**The Best Weight-Loss Strategy**

- **Eat Fewer Calories**
  - Eat more foods that are high in nutrients and low in calories.

- **Burn More Calories**
  - Burn more calories through physical activity.

**Healthful Ways to Manage Weight**

The teen years are a period of rapid growth and change, so some fluctuations in your weight are normal during this time. Following the ABCs of good health will help most teens maintain a healthy weight. However, if you want to begin a formal weight-management plan, these strategies can help:

- **Target your appropriate weight.** Speak with a health care professional to determine a weight range that is healthy for you.

- **Set realistic goals.** Gaining or losing one-half pound to one pound per week is a safe and realistic goal.

- **Personalize your plan.** Think about your food preferences and lifestyle when designing your weight management program.

- **Put your goal and plan in writing.** You might also find it helpful to keep a journal of what and when you eat to become more aware of your eating habits.

- **Evaluate your progress.** Track your progress by weighing yourself weekly at the same time of day. Remember that time periods when your weight does not change are normal.

**Healthy Weight-Loss Strategies**

A health care provider is your best source of information about your appropriate weight. If he or she recommends that you lose weight, use the best weight-loss strategy, illustrated in Figure 6.2. Here are some other tips for losing weight:

- **Eat 1,700 to 1,800 calories daily to meet your body’s energy needs.** To reach this goal, eat at least the minimum number of servings from each of the five groups in the Food Guide Pyramid. Eating fewer than 1,400 calories a day may cause you to miss out on essential nutrients.

- **Include your favorites in moderation.** Eat smaller portions of your favorite high-calorie foods, and eat them less frequently. Instead of giving up ice cream altogether, for example, have a small scoop once a week.

- **Eat a variety of low-calorie, nutrient-dense foods.** **Nutrient-dense foods** are foods that are high in nutrients as compared with their calorie content. Whole-grain products, vegetables, and fruits are examples of low-calorie, nutrient-dense foods.

- **Drink plenty of water.** Eight glasses a day will help keep your body functioning at its best.

**More About...**

**Weight-Loss Strategies** Here are some helpful hints for students trying to lose weight:

1. **Be patient.** Don’t try to lose weight in a hurry. Modify your eating habits gradually. (2) **Have healthy foods available and be determined to eat them.** (3) **If you have setbacks, don’t panic or give up.** Stay calm and analyze the situation. For example, if you find yourself craving a high-calorie snack, take a moment to consider why you want to eat that snack. Instead of giving in to a craving, go for a walk or call a friend. If you do give in to a craving every now and then, don’t criticize yourself. Just take steps to get back on track.
Should Schools Limit the Use of Vending Machines?

In schools across the country, vending machines offer soda, candy, and other snacks. Some schools limit the types of foods offered in vending machines or restrict student access to the machines. Should schools set rules concerning vending machines? Here are two points of view.

**Viewpoint 1: Philip S., age 16**
Most of the food in vending machines is high in sugar, fat, or salt—definitely not part of a healthful eating plan. I’ve seen kids eat only the foods from vending machines for lunch. If access to the vending machines were limited, students would have to eat more healthful meals. I think that schools have every right to put limits on access or to change the foods offered.

**Viewpoint 2: Katie T., age 15**
I don’t think schools need to limit the types of snacks in vending machines or restrict students’ access to them. It’s up to the individual to make responsible decisions about his or her food choices. Besides, eating snacks high in sugar, fat, or salt is okay once in a while.

1. Are vending machines interfering with students’ efforts to eat healthfully? Why or why not?
2. Should schools control the contents of vending machines or restrict access to them? Explain your answer.

**Healthy Weight-Gain Strategies**
Follow these tips to gain weight healthfully:

- **Increase your calorie intake.** Choose foods high in complex carbohydrates, such as breads, pasta, and potatoes. Limit foods high in fat and sugar.

- **Eat often and take second helpings.** Choose more than the minimum number of servings from each food group in the Food Guide Pyramid.

- **Eat nutritious snacks.** Snack two to three hours before meals to avoid spoiling your appetite.

- **Build muscle.** A supervised resistance-training program will help you gain weight by increasing muscle mass.

**MYTH.** A person can lose weight simply by eating fewer calories.

**FACT.** Most people cannot permanently lose weight just by eating fewer calories. The human body tries to maintain a fixed weight, or set point; when a person eats less, the body thinks it is starving. It has a built-in safeguard to protect it from the famines human beings have had to face throughout history. As soon as an individual reduces the calories he or she consumes, the metabolic rate slows down, and the body begins to use fewer calories for all of its processes. However, a small amount of daily physical activity can help speed up the metabolic rate and thereby lower the person’s set point.
Chapter 6 • Lesson 1

Reviewing Facts and Vocabulary
1. List three factors that influence what an individual’s appropriate weight should be.
2. Explain the difference between the terms overweight and obesity.
3. Examine and briefly describe the relationship among body composition, diet, and fitness.

Thinking Critically
4. Analyzing. How can keeping a food journal help a person manage his or her weight?
5. Hypothesizing. Why is it important to eat a variety of low-calorie, nutrient-dense foods if you’re trying to lose weight?

Physical Activity and Weight Management
Whether you want to lose, gain, or maintain weight, regular physical activity should be part of your plan. Aerobic exercise burns calories and helps you lose fat. Weight lifting or resistance training will increase muscle mass and produce a firm, lean body shape. Also, since muscle is more efficient than fat at burning calories, having more lean muscle tissue increases the number of calories your body burns, even at rest. Here are some added benefits of regular physical activity:

- It helps relieve the stress that often leads to over- or undereating.
- It promotes a normal appetite response, which helps you gain, lose, or maintain weight.
- It increases self-esteem, which helps keep your plan on track.

Research consistently shows that regular physical activity, combined with healthy eating habits, is the most efficient and healthful way to manage your weight and live a healthy life. Choose activities that you enjoy and that fit your personality. You will soon discover your body’s capabilities and begin to look and feel your best.

Applying Health Skills
Practicing Healthful Behaviors. Vicki wants to be sure that she maintains a healthy weight range as she moves through her teen years. What behaviors can Vicki practice to help her meet this goal? Write a short story that shows how Vicki practices these behaviors.

Fruit and vegetable drinks are nutrient-dense snacks that can be part of a healthy weight-management plan. What are some other examples of nutrient-dense snacks?

Enrichment
Ask students to pretend that they are creators of a chain of fast-food restaurants that feature only healthy food choices. Have them work in groups to decide on a restaurant name, a nutritionally balanced menu featuring low-calorie fast foods, and a promotional campaign that is targeted to teens.

Close
Have students close their textbooks and write an outline of the lesson’s major concepts. Afterward, request that they open their textbooks to check the accuracy of their outlines. Conclude with a brief discussion of the most important concepts learned in the lesson.

Answers to Reviewing Facts and Vocabulary
1. Any three: gender, age, height, body frame, growth rate, metabolism, activity level.
2. See page 146 for definitions.
3. Diet and fitness affect a person’s body composition—the ratio of body fat to lean body tissue.

Answers to Thinking Critically
4. Possible answer: It can help a person see exactly what he or she eats and why.
5. When limiting your caloric intake, you want to be sure that calories you take in are providing all the nutrients you need.

Word Processing
Word processing can give your short story a professional look. See health.glencoe.com for tips on how to get the most out of your word-processing program.
You’ll learn to
• Describe the risks of fad diets and other dangerous weight-loss strategies.
• Describe the causes, symptoms, and treatment of eating disorders.
• Provide help to someone with an eating disorder.
• Identify the presence of an eating disorder as a situation requiring assistance from professional health services.

Write the term diet in the center of a sheet of paper. Around this term, write five to ten words or phrases that come to mind when you hear the word diet.

“I Lost 100 Pounds Easy! Eating My Favorite Foods!!!”
“This Is The Greatest Diet Ever!”

Fad diets may promise quick and easy weight loss, but any weight lost on these diets is usually regained. What features does a healthful weight-loss program have?

Fad Diets

If you see an ad like the one shown here, be wary. Such ads are often for fad diets, weight-loss plans that are popular for only a short time. These diets often are hard to stick with because they limit food variety. The “grapefruit diet” is an example of a food-limiting fad diet. Some fad diets are costly because they require dieters to buy certain products. Fad diets that severely restrict the foods a dieter eats fail to provide the body with the nutrients it needs for health and growth. Any weight lost on fad diets is usually regained.

Write the word diet on the board. As students create their word webs, ask volunteers to share some of their responses, and write them on the board. Ask students: Are the majority of responses positive or negative? Why do you think this is so?

Introducing Vocabulary

• Ask students to create and share a brief public service announcement for a popular teen radio station about eating disorders, using the terms anorexia nervosa, bulimia nervosa, and binge eating disorder.

• Ask students to complete the Chapter 6 Study Guide in the Student Activity Workbook.
Liquid Diets

A person on a liquid diet replaces all of his or her food intake with a special liquid formula. These very-low-calorie diets generally do not meet the body’s energy needs. As a result, they often leave the dieter feeling fatigued. Many liquid diets do not provide the body with fiber and needed nutrients. Relying on high-protein, low-carbohydrate liquids as the only source of nutrients can cause serious health problems and even death. Because of the potential dangers associated with liquid diets, the U.S. Food and Drug Administration (FDA) requires these products to carry warning labels and recommends that they be used only under close medical supervision.

Fasting

To fast is to abstain from eating. Although this may seem like a sure way to lose weight, fasting for more than short periods deprives your body of needed nutrients and energy. Without a fresh supply of nutrients each day, your body begins breaking down protein stored in muscle tissue for energy. If the person who is fasting also avoids liquids, he or she may become dehydrated.

Some religious and cultural rituals involve brief periods of fasting. Such fasting is not dangerous for the average person because the fast is of limited duration. However, fasting may not be advisable for those with diabetes or other health conditions. If you are unsure about how cultural or religious fasting may affect a medical condition, consult a health care professional for advice.

Diet Pills

Many diet pills work by suppressing appetite. They may cause drowsiness, anxiety, a racing heart, or other serious side effects. Diet pills may also be addictive. Some cause the body to lose more water than normal, which can lead to dehydration. Diet pills may claim to “burn,” “block,” or “flush” fat from the body, but a low-risk pill that meets these claims has not yet been developed.

Weight Cycling

Some diet plans or products may seem to help people lose weight quickly, but the weight loss is usually from water, not body fat. Water weight lost is quickly regained. The repeated pattern of loss and regain of body weight is called weight cycling. Weight cycling is common in people who follow fad diets. Some reports have suggested that weight cycling is harmful, although other studies do not support this finding. In general, slow and steady weight loss is the best strategy for long-lasting results.

Language Arts

Encourage students to become consumer reporters and investigate the following approaches to weight management: diet candies, diet pills, liposuction, liquid meals, weight-loss clubs, gastric bypass surgery, and a currently popular diet. Have them write a “Consumer Update,” describing the approach, effectiveness, cost, and safety of each. Remind students to proofread for errors. Then have them write a final draft. Make copies of their reports to distribute to the entire class.
The Risks of Eating Disorders

Sometimes a person’s concerns about weight and efforts to lose weight can get out of control. Becoming obsessed with thinness can lead to eating disorders. An eating disorder is an extreme, harmful eating behavior that can cause serious illness or even death. The exact cause of eating disorders is unknown. They may be brought on by mental or emotional factors such as poor body image, social and family pressures, and perfectionism. Some scientists think that the cause may be partly genetic. Teens with a family history of weight problems, depression, or substance abuse may be more at risk for developing an eating disorder.

About 90 percent of those with eating disorders are female. It’s estimated that about one percent of females ages 16 to 18 have this illness. Eating disorders are a serious health problem, and people who suffer from them need professional help.

Fad Diets Harm Health

In a society obsessed by weight and appearance, the promise of quick weight loss is hard to resist. However, fad diets are not only ineffective in producing long-term weight loss, they’re also potentially harmful. In this activity you will create a poster advocating against fad diets.

What You’ll Need

• poster board
• markers

What You’ll Do

1. As a class, brainstorm potentially harmful effects of fad diets.
2. In groups of two or three, come up with a simple concept that conveys the message that fad diets can harm health. Your concept should be relevant to high school students.
3. Make a poster illustrating your message. Include supporting information about healthful weight-loss strategies in the poster.
4. Ask permission to display your posters at school.

Apply and Conclude

Is your poster persuasive? What advocacy techniques did you use to persuade others? How will your poster have a positive effect on the health of your audience? Why is this an important health issue for teens?
Anorexia Nervosa

Anorexia nervosa is a disorder in which the irrational fear of becoming obese results in severe weight loss from self-imposed starvation. Anorexia nervosa is a psychological disorder with emotional and physical consequences. The disorder relates to an individual’s self-concept and coping abilities. Outside pressures, high expectations, a need to be accepted, and a need to achieve are characteristics associated with the development of anorexia. Medical specialists have also found that genetics and other biological factors may play an equally powerful role in the development of this disorder. Hormones and certain brain chemicals have been shown to trigger the illness in some people.

Anorexia develops most often in teenage girls and young women. Symptoms include extremely low caloric intake, an obsession with exercising, emotional problems, an unnatural interest in food, a distorted body image, and denial of an eating problem.

HEALTH CONSEQUENCES OF ANOREXIA NERVOSA

Physical consequences of anorexia are related to malnutrition and starvation. A drastic reduction of body fat may cause females with anorexia to stop menstruating. Other consequences include loss of bone density, low body temperature, low blood pressure, slowed metabolism, and reduction in organ size. People with anorexia may develop serious heart problems, including an irregular heartbeat that can lead to cardiac arrest and sudden death.

Treatment for anorexia nervosa may include a stay at a clinic or hospital where the person can receive nutrients to regain weight and strength. Anorexia nervosa also requires psychological treatment to address the problems that lead to the disorder.

Bulimia Nervosa

Bulimia nervosa is a disorder in which some form of purging or clearing of the digestive tract follows cycles of overeating. A person with bulimia often fasts or follows a strict diet and then binges, or quickly consumes large amounts of food. After eating, the person may vomit or take laxatives to purge the food from the body. Following a binge, the person may again try dieting to gain a sense of control and avoid putting on weight. The exact cause of bulimia has not been determined, but societal pressures, self-esteem issues, and family problems may be factors.

I think my friend might have anorexia nervosa. How can I tell for sure? The only way to know for sure if someone has anorexia nervosa is for the person to be diagnosed by a health care professional. However, some signs of anorexia nervosa include low calorie intake; extreme interest in food; obsessive involvement in strenuous activity; intense fear of being obese; inaccurate image of one's body; attitude of extreme perfectionism; emotional problems; extreme weight loss; constipation; and, in females, absence of menstrual periods. Early diagnosis and care improve the chance of recovery, so it is important for anyone who may have anorexia nervosa to seek professional help.
Health Skills Activity

Decision Making: Helping a Friend Get Help

Audrey and Rebecca are friends. They are both on the school basketball team. Lately, Audrey has noticed that Rebecca skips lunch and seems to be losing weight.

One day after practice, Rebecca tells Audrey that she is going to jog for at least a mile. Audrey is amazed. “What do you mean? You just ran up and down the court for two full hours.”

Rebecca says, “I ate a salad for lunch today. I’m getting fat.” Audrey suspects that Rebecca has an eating disorder and wonders how to help her.

What Would You Do?

Apply the decision-making steps to Audrey’s problem.
1. State the situation.
2. List the options.
3. Weigh the possible outcomes.
4. Consider values.
5. Make a decision and act.
6. Evaluate the decision.

Lesson 2  Fad Diets and Eating Disorders  155

Helping a Friend Get Help

NHES Standard 6  Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.

Objectives

• Describe the symptoms of eating disorders.
• Apply decision-making skills to make a health-promoting decision.

Motivator

As a class, ask students to describe possible signs of an eating disorder.

Teaching Strategies

1. Remind students of the seriousness of eating disorders and that an adult should always be told if a disorder is suspected.
2. Ask volunteers to suggest how Audrey might express her concerns in an empathetic way.

Assessment

Using a rubric, student work should provide comprehensive evidence of the following criteria to achieve the highest score:
✔ clear description of the situation
✔ several options with possible outcomes of each
✔ influence of values on possible decisions
✔ health-enhancing decision and an evaluation of it

Help for Eating Disorders

Have students research community sources of help for individuals suffering from anorexia nervosa, bulimia nervosa, or binge eating disorder. They could check with local hospitals, mental health facilities, and support groups such as Overeaters Anonymous. Have students prepare a list of survey questions to ask about the types of treatment available, the length of most kinds of treatment, fees, qualifications, and training of personnel. Ask students to share materials from the community programs and their findings with the class.
Chapter 6 • Lesson 2

HEALTH CONSEQUENCES OF BINGE EATING DISORDER

Binge eating disorder often results in unhealthful weight gain, which contributes to health problems such as type 2 diabetes, heart disease, and stroke. Gallbladder problems, high blood pressure, high cholesterol, and increased risk of certain types of cancer have also been associated with this disorder.

Help for Eating Disorders

People with eating disorders need professional medical and psychological help. They may also benefit from support groups and clinics. All eating disorders are serious. If you believe a friend might be developing an eating disorder, you may want to discuss the problem with a trusted adult such as a parent, a counselor, or a school nurse. You can also help by encouraging your friend to seek professional help and by being supportive.

Reviewing Facts and Vocabulary

1. Define the term **fad diets**.
2. Describe the causes, symptoms, and treatment of the eating disorder anorexia nervosa.
3. What is **bulimia nervosa**?

Thinking Critically

4. **Evaluating.** Describe the similarities and differences between bulimia nervosa and binge eating disorder.
5. **Analyzing.** Why do people with eating disorders require assistance from professional health services?

Applying Health Skills

**Advocacy.** Think of ways to inform teens about the dangers of fad diets and other risky weight-loss strategies. With a group of classmates, plan and create a video or public service announcement (PSA) that tells teens about these dangers and gives tips for healthy weight loss.

WEB SITES

Use your video or PSA as part of a Web page you develop on healthy weight management. See health.glencoe.com for help in planning and building your own Web site.

Answers to Reviewing Facts and Vocabulary

1. Weight-loss plans that are popular for only a short time.
2. See Anorexia Nervosa on page 154.
3. A disorder in which some form of purging or clearing of the digestive tract follows cycles of overeating.

Answers to Thinking Critically

4. Like bulimics, people with binge eating disorder eat large amounts of food at one time. Unlike bulimics, they do not purge to rid their bodies of the food.
5. Professional health services are needed to address the physical and psychological aspects of eating disorders.

CLOSE

Lead a class discussion on ways to deal with peer pressure that is related to food choices.
Nutrition for Individual Needs

VOCABULARY
- electrolytes
- rehydration
- vegetarian
- vegan
- dietary supplement
- megadose
- herbal supplement

YOU’LL LEARN TO
- Understand the specific nutritional needs of different groups.
- Explain the importance of proper nutrition in promoting optimal health for pregnant women, infants, and young children.
- Identify good nutrition as a health-promoting behavior that will enhance and maintain personal health throughout life.

Does it seem to you that everyone has a different idea about proper nutrition? Some friends may tell you that eating meat is unhealthy, and others may insist that eating too many carbohydrates is bad for you. What can you believe? In truth, proper nutrition may depend on the individual. A pregnant woman, for example, has different nutritional needs than those of an older adult.

Performance Nutrition

Do you play on a sports team or take aerobics classes? Good nutrition can help you perform your best in any physical activity.

The Training Diet

No single food will help you build muscle or increase speed. The best eating plan for athletes is one that is balanced, moderate, and varied. Your body’s need for protein, vitamins, and minerals does not change greatly when training for sports or competition. However, because physical activity burns calories, athletes and other active individuals need to eat more calories from nutrient-dense foods to maintain their weight and energy levels when training.
HYDRATION

Your body naturally loses fluids through perspiration, breathing, and waste elimination. The amount of fluids lost increases during physical activity, especially in hot weather. These fluids must be replaced to avoid dehydration and heatstroke. Becoming dehydrated can lead to an imbalance of electrolytes, minerals that help maintain the body's fluid balance. The minerals sodium, chloride, and potassium are all electrolytes.

To maintain your body's electrolyte balance, you must take in as much water and electrolytes as you lose through perspiration and body wastes. Drink 16 to 24 ounces of fluids two to three hours before a heavy workout and 6 to 12 ounces of fluids every 15 to 20 minutes during heavy workouts. Rehydration, or restoring lost body fluids, is important after physical activity and competition. Drink 16 ounces of fluid for every pound of body weight lost through sweat. It's best to drink plain water to replenish fluids lost during exercise.

“Making Weight”

In sports such as wrestling and boxing, participants compete in specific weight classes, so maintaining a certain weight is important. Always compete at a weight that's right for you.

“Losing Weight”

Competing in a weight class that is below your healthy weight can be dangerous. Fasting, crash dieting, or trying to sweat off extra weight before weigh-in can cause dehydration and harm your performance and your health. Over time, such practices may also lead to a loss of muscle mass. Athletes who need to lose weight should follow a sensible plan and try to lose only one-half pound to one pound each week.

“Gaining Weight”

A program that combines balanced nutrition and exercise is the healthful way to gain weight. A supervised resistance-training or weight-lifting program can help build muscle mass. The extra calories you need for gaining weight should come from nutrient-dense foods, not from protein supplements. For best results, a slow, steady weight gain of no more than one to two pounds per week is recommended. Using anabolic steroids or other bodybuilding drugs to build muscle mass is not healthy. Many of these drugs have dangerous side effects ranging from acne and breast development in men to heart attacks and liver cancer. Use of these substances is illegal; athletes who test positive for steroids and similar drugs often are disqualified from their sport.

Athletes and Body Weight

Body weight is important in many sports. For example, extra weight is an advantage in football, while sports such as wrestling have weight restrictions. Being lean with good muscle mass is advantageous in many sports.

An athlete's weight should be within a healthy weight range for him or her and remain stable. Crash dieting and taking sweat baths before a weigh-in are unhealthy. They result in fatigue, dehydration, muscle loss, and poor performance. Athletes who need extra weight for contact sports should begin a slow, steady program of weight gain. Building extra muscle mass takes time and exercise.
**Lesson 3  Nutrition for Individual Needs**

**Eating Before Competition**
Eating three to four hours before competition allows the stomach to empty yet gives an athlete the necessary energy and keeps him or her free from hunger pangs while competing.

Before competing, choose a meal that’s high in carbohydrates and low in fat and protein, both of which stay in the digestive system for a longer period of time. Pasta, rice, vegetables, breads, and fruits are good sources of carbohydrates. Also, remember to drink plenty of water before, during, and after competing.

**Vegetarianism**
A **vegetarian** is a person who eats mostly or only plant foods. Some people are vegetarians for religious or cultural reasons. Others make this choice because of their concern for the environment or for how food animals are raised or slaughtered. Many people become vegetarians for health reasons. By cutting out the saturated fats and cholesterol found in many or all animal products, vegetarians may reduce their risk of cardiovascular disease and some cancers. Also, vegetarians may consume more fruits, vegetables, and whole grains—foods that are linked to a reduced risk of many health problems. **Figure 6.3** describes four vegetarian eating styles.

**Figure 6.3**

**Vegetarian Eating Plans**

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Foods Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacto-ovo vegetarianism</td>
<td>• Dairy (lacto) foods and eggs (ovo) in addition to foods from plant sources.</td>
</tr>
<tr>
<td>Lacto vegetarianism</td>
<td>• Dairy foods in addition to foods from plant sources.</td>
</tr>
<tr>
<td>Ovo vegetarianism</td>
<td>• Eggs and foods from plant sources. Fortified soy milk and soy cheese are often substituted for dairy products.</td>
</tr>
<tr>
<td>Vegan</td>
<td>• Foods from plant sources only. Fortified soy milk and soy cheese are often substituted for dairy products.</td>
</tr>
</tbody>
</table>

**Cooperative Learning**
Let students form small cooperative groups, and have each group select a competitive sports event, such as a track meet, a volleyball game, or a gymnastics competition. Have group members work together to plan a specific meal for an athlete to eat before the competition.

**Activity**
Have students do research to refute these common sports nutrition myths: (1) Honey provides immediate energy. (2) Sucking ice before a workout will prevent dehydration. (3) Taking a salt tablet will help prevent dehydration.

**Discussing**
Help students identify and discuss the reasons people give for accepting or rejecting vegetarianism. Encourage students to share their responses to each suggested reason. Ask volunteers to explain their own reasons for following (or for choosing not to follow) a vegetarian eating plan.

**Curriculum Connections**

**Family and Consumer Sciences** Team up with a food and nutrition class to discuss nutrient-dense vs. empty-calorie foods.

**Science** Have students research the ingredients in sports drinks and report their findings to the class.

**Language Arts** Help students write letters to their favorite athletes, asking about their training diets and pre-competition meals. Students may need to write outlines to help organize their ideas. Instruct students to develop drafts and proofread for errors before completing their final drafts.
MEATLESS MEALS

NHES Standard 2 Students will demonstrate the ability to access valid health information and health-promoting products and services.

Objective
Demonstrate the ability to access and apply health information regarding healthful vegetarian meals.

Motivator
Give students two minutes to write down meatless foods that they enjoy.

Teaching Strategies
1. Suggest that students incorporate items from their lists into their menus.
2. Remind students that some meatless foods, such as cheese, are high in fat. Advise them to limit the inclusion of high-fat foods in their menus.
3. Ask students who are practicing vegetarians to share their meal-planning strategies.

Assessment
Using a rubric, student work should provide comprehensive evidence of the following criteria to achieve the highest score:
✔ citation of specific sources
✔ evaluation of the validity of the source
✔ rationale for the appropriateness of the source
✔ type of help available from the sources

MEETING NUTRIENT NEEDS
Vegetarians need to eat a variety of incomplete proteins in a way that will yield complete protein over the course of a day. They must also make sure they get enough iron, zinc, and B vitamins, nutrients often found in animal products. For vegetarians the key to getting complete proteins and enough vitamins lies in eating adequate amounts of various nutrient-dense foods, including fruits, vegetables, leafy greens, whole grains, nuts, seeds, and legumes, as well as dairy foods or eggs. **Vegans** are vegetarians who eat only plant foods.
Because vegans consume no meat or dairy products, they must obtain vitamin D, vitamin B₁₂, and calcium from other sources.

**Dietary Supplements**

Do you take a multivitamin and mineral supplement regularly? These tablets are one type of dietary supplement, a non-food form of one or more nutrients. Dietary supplements may contain vitamins, minerals, fiber, protein, or herbs. Supplements can be in pill, capsule, powder, or liquid form.

Eating healthful meals and snacks based on the Food Guide Pyramid can provide you with all the nutrients your body needs. However, taking a multivitamin and mineral supplement may sometimes be appropriate. A health care provider may recommend these supplements to people with certain lifestyles or medical conditions. For example, a calcium supplement may be recommended for vegans or for people who are lactose intolerant. Iron tablets might be recommended for someone with iron-deficiency anemia.

Vitamin and mineral supplements may also be recommended for older adults, pregnant or nursing women, people receiving certain medical treatments, and those recovering from illness. If you are in doubt about your own requirements, ask a health care provider.

**Risks of Dietary Supplements**

Dietary supplements must be used carefully. Taking a megadose, or a very large amount of a dietary supplement, can be dangerous. Vitamins A, D, E, and K, for example, are stored in body fat and may cause toxicity if taken in large amounts.

An herbal supplement is a chemical substance from plants that may be sold as a dietary supplement. These substances are often sold as “natural” nutrition aids. However, the safety and nutritional claims of many of these products are not based on conclusive scientific evidence. Currently, manufacturers of herbal products are responsible for product safety and label claims unless the product is known to be dangerous. The Center for Food Safety and Applied Nutrition (CFSAN) of the U.S. FDA alerts consumers to potentially dangerous dietary supplements. Some herbal supplements known to have dangerous side effects include ephedra, lobelia, yohimbe, and chaparral.

**Active Reading**

If/Then Statements

Creating their own statements about nutrition and dietary supplements will introduce students to these subjects. Model writing an If/Then statement such as “If I follow the Food Guide Pyramid, then I will probably not need to take dietary supplements.” Tell students to look for more facts to add to their If/Then statements as they continue reading the lesson. For more strategies, see the Guided Reading Activities booklet in the TCR.

Discussing

Ask students to indicate whether they have taken vitamins or other dietary supplements. Let volunteers explain why they do—or do not—take such supplements regularly. Lead a class discussion on the potential benefits and risks of dietary supplements.

Discussing

Ask students to identify specific nutrient-dense foods: Which of these foods do you like? How can you incorporate more of these foods into your daily eating plan? How can eating more nutrient-dense foods help reduce your need for dietary supplements?
People have different nutritional needs at different stages of life. Many children and most teens, for example, need more calories each day than less active adults. While the nutritional needs of these groups vary slightly, most people can get all the calories and nutrients they need each day by following the recommendations from the Dietary Guidelines and the Food Guide Pyramid.

Nutrition During Pregnancy

A developing fetus depends on its mother for all its needs, so it’s important for pregnant females to eat healthfully and to avoid harmful substances such as tobacco, alcohol, and other drugs. In addition to eating properly, pregnant females are encouraged to increase their intake of foods rich in the nutrients listed below. A health care provider may also recommend that a pregnant female take a multivitamin and mineral supplement to help meet these nutrient needs.

- **Folate.** Getting enough folate, or folic acid, early in pregnancy can prevent spinal defects in the developing fetus. Sources of this B vitamin include fruits, dark green leafy vegetables, and fortified grain products.

- **Iron.** Increased blood volume during pregnancy produces an increased demand for this mineral. Found in meat, poultry, fish, dark green leafy vegetables, and enriched grain products, iron helps build and renew hemoglobin, the oxygen-carrying compound in blood cells.

- **Calcium.** Calcium helps build the bones and teeth of the developing fetus and replaces any calcium taken from the mother’s bones. Calcium is found in most dairy products, dark green leafy vegetables, canned fish with edible bones, and calcium-fortified cereals and juices.

Nutrition for Infants and Young Children

Breastfeeding is the best way to feed infants. If breastfeeding isn’t possible, fortified formulas provide the nutrients that infants need. As a baby grows through its first year, breast milk or formula is supplemented with a variety of solid foods, usually starting with cereal grains, then vegetables and fruits, and then meat or poultry.

Breastfeeding

Most health care professionals agree that breastfeeding is the best choice when it comes to feeding newborns. Breast milk is recommended for a variety of reasons. Because it contains natural immunities from the mother, breast milk helps protect infants from many illnesses, including respiratory problems, diarrhea, and ear infections. Breast milk can also lower a newborn’s risk of developing some liver problems. Although some infants are allergic to formula, they do not have the same reaction to breast milk. Breastfeeding also provides long-term benefits for infants, including normal growth and reduced chance of being overweight.
After a child's first birthday, many parents substitute whole milk for formula or breast milk. The fats in whole milk provide essential nutrients for a child’s developing nervous system. By this time most children are eating a variety of foods. This variety provides the energy and nutrients needed for growth and encourages the child to enjoy different foods.

Between a child’s second and fifth birthdays, parents should gradually replace whole milk with low- or non-fat milk to meet calcium and vitamin D needs while reducing fat intake.

**Nutrition and Older Adults**

Most older adults can get all the calories and nutrients they need each day by following the recommendations in the Dietary Guidelines and the Food Guide Pyramid. Older adults may be advised to follow a special diet if they have a specific health problem.

In certain cases, health care providers might recommend that older adults take a dietary supplement to help meet their nutrient needs. For example, some older adults may take medications that interfere with nutrient absorption.

**Reviewing Facts and Vocabulary**

1. What type of meal should an athlete eat before competing?
2. Define the term vegetarian.
3. Explain what a megadose is and why it may be dangerous.

**Thinking Critically**

4. Synthesizing. Explain why proper nutrition is especially important in promoting optimal health for pregnant women, infants, and young children.
5. Analyzing. How does good nutrition enhance and maintain personal health throughout life?

**Applying Health Skills**

**Advocacy.** Many people think that taking vitamins, minerals, and herbal supplements will improve their health. Develop a pamphlet to educate others about the best ways of getting the nutrients needed for good health. Include information on the safe use of supplements.

**PRESENTATION SOFTWARE**

By using presentation software, you can include art and graphics in a slide show on the importance of good nutrition. Find help in using presentation software at health.glencoe.com.

**Lesson 3 Review**

**Answers to Reviewing Facts and Vocabulary**

1. A precompetition meal should be high in carbohydrates and low in fat and protein, and should include plenty of water.
2. A vegetarian is a person who eats mostly or only plant foods.
3. A megadose is a very large amount of a dietary supplement. Some may be toxic.

**Answers to Thinking Critically**

4. Answers should include the nutritional requirements of a pregnant female, a developing fetus, an infant, and a young child.
5. Answers will vary, but should address various age groups.

**CLOSE**

Remind students that an eating plan that follows the guidelines provided by the Food Guide Pyramid will meet the majority of their nutritional needs. Point out that taking a multivitamin and mineral supplement may be appropriate in certain situations.
Body Image in Teen Magazines

Teen magazines often feature images of very thin and fit models. Readers who feel that they don’t “measure up” to these models in terms of weight may develop a negative body image. Use the activity below to help you examine messages in teen magazines about weight.

Activity

Look through a number of teen magazines. What sorts of images of teens do the magazines contain? Are a variety of body types featured? What is the magazine’s take on weight management? Do the articles and ads focus on having a moderate, balanced eating plan and increasing physical activity as ways of managing weight healthfully?

As a class, produce a magazine devoted to the topic of healthy weight management for teens. Be sure to include all the elements of a magazine, including feature articles on exercise, nutrition, and body composition; a cover; letters from readers; an advice column; and advertisements. You might also want to include recipes, fictional stories, and a Buyer’s Guide/Buyer Beware column.

Express Your Views

Some teen magazines refuse to publish articles and ads on dieting because of the potential these items have for contributing to teens’ negative body image. Others continue to feature such articles and ads. As a class, discuss whether magazines should contain information and ads on dieting.

Assessment

Student articles should make use of concepts presented in the chapter, including body mass index, eating disorders, nutrient-dense foods, and other topics. After researching and writing, groups should compile their work into a magazine format.

More About...

Images of Teens in Magazines  A non-profit advocacy group called Dads and Daughters, or DADS, has begun to put pressure on the editorial boards of teen and youth magazines to stop them from giving teens diet tips and to include teens of all shapes and sizes in their magazines. The group has been somewhat successful, and one major teen magazine has vowed to stop this practice. DADS has also asked advertisers to keep their ads socially responsible, particularly when it comes to body images of teen girls. The organization is urging companies to adopt a Best Advertising Practices policy that includes featuring images that are age appropriate, promote a healthful lifestyle, avoid perfectionism, and show girls of all shapes and sizes.
Write a Report. Eating disorders have been recorded as early as ancient Greek and Roman times. Research the history of eating disorders in the last three decades. Address theories on the possible causes of eating disorders, and determine why it was not until the 1970s that public awareness of these illnesses increased. Write a report based on your research.

Investigate the Topic. Reducing calorie intake can slow down a person’s metabolism, a process that is similar to what happens in people who are suffering from starvation. Research this biological process and explain why the body responds to decreased caloric intake in this way. Present your findings in a brief report.

Registered Dietitian

Are you interested in the special nutritional needs of athletes, older adults, or pregnant women? Would you like to inspire others to make healthful food choices? If you answered yes to these questions, you may enjoy a career as a registered dietitian.

Registered dietitians use a variety of skills in their jobs. They must be critical thinkers to analyze an individual’s eating habits. They must base their nutritional advice on sound science. Good communication skills are necessary to help people understand how to make food choices. Registered dietitians must show sensitivity to people’s needs, cultures, and lifestyles. Find out more about becoming a registered dietitian or working in a related field by clicking on Career Corner at health.glencoe.com.

Calculate Calorie Ranges. Nutritionists recommend that 55 to 60 percent of daily calories come from complex carbohydrates. What is the range of calories that should come from complex carbohydrates for a teen who consumes 2,200 calories per day? What is the range for a teen who consumes 2,800 calories per day?

For a teen with a daily intake of 2,200 calories, 1,210 to 1,320 of those calories should come from complex carbohydrates (.55 × 2,200 = 1,210; .60 × 2,200 = 1,320). For a teen with a daily intake of 2,800 calories, 1,540 to 1,680 of those calories should come from complex carbohydrates (.55 × 2,800 = 1,540; .60 × 2,800 = 1,680).

Science Students’ research should provide more details about how reducing calorie intake signals the body to lower its metabolic rate. Reports may also address how physical activity and building muscle mass can counteract this mechanism.

Portfolio Assessment

Self-Evaluation Direct students to review the Health Skills Activities and other activities completed in the chapter. Encourage each student to select one finished product or activity that demonstrates his or her best work for the chapter and that represents the student’s learning goals. Have students explain what they have learned and how the examples they have selected demonstrate their growth in health literacy, knowledge, and skills.

Teacher Classroom Resources Assign Performance Assessment 6, “Helping a Friend,” in the TCR.
Chapter 6 Review

Exploring Health Terms

1. body image
2. body mass index (BMI)
3. nutrient-dense
4. Underweight
5. False: weight cycling
6. True
7. True
8. False: binge eating disorder
9. rehydration
10. vegan
11. dietary supplement
12. herbal supplement

Recalling the Facts

1. Maintaining a healthy weight is a matter of energy balance: The calories you consume must equal the calories your body burns.
2. Any three: cardiovascular disease, type 2 diabetes, cancer, high blood pressure, osteoarthritis.
3. Any three: target your appropriate weight, set realistic goals, personalize your plan, put your goal and plan in writing, evaluate your progress.
4. Aerobic activities burn calories and help with fat loss. Weight lifting or resistance training will increase muscle mass, causing the body to burn more calories, even at rest.
5. Fasting denies the body of food energy. Without a daily supply of nutrients, the body breaks down protein stored in muscle tissue to supply the energy it needs to function. Those who avoid liquids while fasting will also become dehydrated.
6. Any three: diet pills may cause drowsiness, anxiety, or a racing heart; some are addictive; some may cause dehydration.
7. Causes: exact cause is unknown, but genetics, social pressures, self-esteem issues, and family problems may be factors. Symptoms: cycle of fasting or following a very strict diet, bingeing, and vomiting or taking laxatives to force food from the body; Treatment: medication and psychological counseling.
8. Causes: may be genetic, may be used to cope with strong emotions or depression; Symptoms: eating huge amounts of food at one time; Treatment: psychological counseling, and sometimes medication.
1. Synthesizing. Why might a person who is on a weight-loss plan become undernourished? How can this condition be avoided? (LESSON 1)

2. Analyzing. Find two diet plans featured in magazines. Use what you know about good nutrition and the Food Guide Pyramid to identify the strengths and weaknesses of each plan. (LESSON 2)

3. Applying. Apply what you have learned about nutrition and vegetarian eating by using the Food Guide Pyramid to plan a sample one-day vegan menu. (LESSON 3)

**THINKING CRITICALLY**

1. Communicating. Your friend Amy confides that she maintains her weight by alternating periods of fasting with eating large amounts of food. After eating, she vomits to rid her body of the food. Amy says that this practice is not harmful and helps her control her weight. Write a script describing what you would say to Amy. With a partner, role-play your scenario for the class. (LESSON 2)

3. Accessing Information. Use reliable online and print resources to find information on at least three dietary supplements known to have harmful side effects. Make a two-column chart that lists in the first column the health claims the supplement manufacturers use to promote their products and, in the second column, the potential side effects of using or abusing the product. Ask permission to post your findings in the weight-training room at your school. (LESSON 3)

**HEALTH SKILLS APPLICATION**

1. Analyzing Influences. Many factors, including media messages, influence body image. Identify the three factors that you think have the greatest effect on a teen’s body image. Explain what role you think each factor plays in determining body image and whether the effect is positive or negative. (LESSON 1)

2. Responses will vary depending on the diet plans selected. Students should recognize that any diet plan recommending too few (less than 1,400) calories per day or that restricts the dieter to only a few types of food is unhealthful because it does not meet the recommendations of the Food Guide Pyramid. Students should also analyze the plans for physical activity recommendations.

3. Responses will vary.

**School and Community**

Overeaters Anonymous. Overeaters Anonymous (OA) is a group that offers support to those who are trying to overcome eating problems. Contact a branch of this organization in your community. Find out what services OA provides and how “sponsors” are used to help support people in recovery. Share your findings in a brief report.

**Parent Involvement**

Goal Setting. Sometimes it’s easier to set and achieve goals if you work with others. With family members, draw up a plan for achieving a specific nutritional health goal. Your goal may be to lose weight, eat more fruits and vegetables, or anything else that applies to your own needs. Use the goal-setting steps to help you reach your goal.

**EVALUATE**

- Use the reproducible Chapter 6 Test in the TCR, or construct your own using the Testmaker software.
- Use Performance Assessment 6 in the TCR.

**ENRICHMENT**

Ask students to complete Enrichment Activity 6 in the TCR.

9. Electrolytes are minerals that help maintain the body’s fluid balance. Dehydration can lead to an imbalance of these minerals.

10. A vegetarian diet can reduce the risk of heart disease, high blood pressure, and some forms of cancer.

11. Because the safety and nutritional claims of many herbal supplements are not based on conclusive scientific evidence, taking these types of supplements can be risky.

12. The nutrients a pregnant female ingests provide nutrition not only for her but also for the developing baby. Some nutrients—such as folate, calcium, and iron—must be ingested during pregnancy to ensure the health of both the mother and the baby. A pregnant female might need to take a dietary supplement to meet these nutrient needs.