Lesson 1

Nutrients for Good Health

Guide to Reading

Building Vocabulary
Write each of the terms below. As you read this lesson, write the definition next to each term.
- nutrients (p. 104)
- carbohydrates (p. 105)
- fiber (p. 105)
- proteins (p. 105)
- fats (p. 105)
- saturated fats (p. 105)
- unsaturated fats (p. 105)
- cholesterol (p. 106)
- trans fatty acids (p. 106)
- vitamins (p. 106)
- minerals (p. 106)

Focusing on the Main Ideas
In this lesson you will be able to
- list the nutrient groups your body needs to be healthy.
- discuss the health benefits of good nutrition.
- identify nutrient-rich foods.
- analyze the information on a Nutrition Facts panel.

Reading Strategy
Predicting Quickly look over the headings in this lesson. Then write a few sentences describing what you think this lesson will be about.

Quick Write
List all the foods you ate yesterday. Underline those you think were the most nutritious.

What Nutrients Do You Need?
Just as a car needs fuel in order to run, your body needs the nutrients in food to perform the activities of daily life. Nutrients (NOO-tree-ents) are substances in foods that your body needs to grow, have energy, and stay healthy. The six types of nutrients are carbohydrates, proteins, fats, vitamins, minerals, and water. Each of these is explained in more detail below.

Fortunately for pizza lovers, the food combinations in pizza contain varying amounts of the nutrient groups. What are the nutrient groups?
Carbohydrates

A baked potato, breads, and noodles all contain carbohydrates. Fruits and vegetables also contain carbohydrates. **Carbohydrates are the starches and sugars found in foods.** Your body uses carbohydrates as its main source of energy. When the energy from carbohydrates is not used right away, it is stored as body fat.

There are two kinds of carbohydrates: simple and complex. **Simple carbohydrates are sugars.** They occur naturally in foods like fruit, milk, and honey. Sugars may also be added when foods are processed. **Complex carbohydrates are starches,** which are made up of many sugars. Complex carbohydrates are found in foods such as potatoes, beans, and cereals. In order to use complex carbohydrates, the body must break them down into sugars.

**Fiber is a complex carbohydrate that the body cannot break down or use for energy.** Some fiber is found in the tough, coarse part of plant foods such as the bran in whole-grain wheat and oats.

Proteins

In order to grow and develop, your body needs **proteins (PROH-teenz), the nutrient group used to build and repair cells.** Proteins are made of compounds called amino (uh-MEE-noh) acids. Complete proteins contain all the essential, or necessary, amino acids and are found in meat, fish, eggs, dairy products, and soybeans. Essential amino acids are those your body cannot make. Most foods that come from plants are sources of incomplete proteins. They are called incomplete because, except for soybeans, they don’t have enough of one or more of the essential amino acids. However, you can get all the needed amino acids by eating certain plant-based foods, such as beans and rice.

Fats

We hear about fats in the news, but what are they? **Fats are nutrients that promote normal growth, give you energy, and keep your skin healthy.** Fats help build and maintain your cell membranes. They also carry vitamins A, D, E, and K to all parts of the body.

**Saturated fats are fats that are usually solid at room temperature.** More of these types of fats are found in meat, poultry, butter, and many other dairy products. Many solid margarines also contain saturated fats. Over time, eating too much saturated fat can increase the risk of developing heart disease and other diseases. **Unsaturated fats are fats that are usually liquid at room temperature.** These fats are found mostly in plant-based foods such as olives, nuts, avocados, and vegetable oils. Over time, switching to mostly unsaturated fats and eating less total fat may lower the risk of diseases such as heart disease.
You probably have heard of **cholesterol** (koh-LESS-tuh-rawl), the waxy, fat-like substance that the body uses to build cells and make other substances. Your body makes two kinds of cholesterol. HDL cholesterol is known as the “good” cholesterol because it protects against heart disease. LDL cholesterol is known as the “bad” cholesterol because it sticks to the walls of blood vessels, which can lead to heart disease. Eating a lot of saturated fats can raise blood levels of LDL cholesterol. Dietary sources of cholesterol include meat, some seafood, whole or reduced-fat milk, many cheeses, and butter. The body also makes some cholesterol.

Blood levels of LDL cholesterol can also rise if you eat too much trans fat, or trans fatty acids. **Trans fatty acids** are a kind of fat formed when hydrogen is added to vegetable oil during processing. This process turns the oil into a solid so that it can be used for such food products as stick margarine. It also keeps oils fresh longer. Trans fats were often found in snack foods, such as potato chips and crackers. However, many snack foods are now being made without trans fat.

**Vitamins**

Most of the foods you eat contain vitamins. **Vitamins** are compounds that help to regulate body processes. Some vitamins help your body fight disease, while others help your body produce energy.

Vitamins are either fat-soluble or water-soluble. Fat-soluble vitamins, such as A, D, E, and K, dissolve in fat and can be stored in the body. Water-soluble vitamins, such as vitamin C and the B vitamins, dissolve in water. Since your body can store only small amounts of them, it needs a fresh supply of water-soluble vitamins each day.

How can you be sure that you are getting enough vitamins? Eating a variety of foods helps. For example, you get vitamin D from fortified milk and eggs. Vitamins A and C are found in fruits and vegetables. Vitamins are often added to some processed foods, such as breakfast cereal.

**Minerals**

Minerals are also very important to your health. **Minerals** are substances the body uses to form healthy bones and teeth, keep blood healthy, and keep the heart and other organs working properly. Iron is a mineral that helps make red blood cells. You can get iron from meat, poultry, and beans. Calcium, magnesium, and phosphorus are minerals that help build your teeth and bones and keep
them strong. Dairy products such as milk and cheese are good sources of these minerals. Potassium and sodium help maintain your body's fluid balance. Potassium is found in fruits such as bananas and cantaloupe, in fish, in many vegetables, and in meats such as chicken and turkey. Sodium is found in table salt and in many processed foods.

Water

Water is essential to every body function you have. In fact, a person can live for only about a week without it. Water carries nutrients to your cells, helps regulate your body temperature, and helps your body digest food and remove wastes. When you perspire heavily, you need to increase the amount of water you drink. Most foods contain water, but the best sources are plain water, milk, and juice. Sweetened iced tea, soda, and certain sports drinks are not good choices because they often contain a lot of added sugars and few, if any, other nutrients. Many also contain caffeine.

**Reading Check** Explain What are minerals?

**Guidelines for Good Nutrition**

The U.S. Department of Agriculture (USDA) and the Department of Health and Human Services have developed the Dietary Guidelines for Americans to provide scientifically valid information about healthy eating and active living. These recommendations are meant for people ages two and up.

**Make Smart Food Choices**

What can you do to give your body the balanced nutrition it needs? You can start by eating a variety of nutritious foods every day. Eat more fruits; choose mostly whole fruit rather than drinking a lot of fruit juices. Whole fruit has more fiber. Vary your vegetables and eat more of them. Eat more leafy, dark-green vegetables, like broccoli and spinach. Orange vegetables, like carrots and sweet potatoes, are also high in nutrients. The more colorful your overall vegetable choices are, the greater the variety of nutrients they provide. At least half of the grains you eat should be whole grains. Try adding oatmeal, whole-wheat bread, and brown rice to your eating plan. Also, be sure to eat enough calcium-rich foods such as low-fat or fat-free milk, yogurt, or cheese. Eat a variety of protein-rich foods, such as fish, chicken, lean meats, eggs, nuts, seeds, and beans. Go easy on foods that are high in saturated fats, such as fatty meat and butter, and in trans fats, such as stick margarine. Eating too much of these foods can increase the risk
of heart disease and stroke. When you eat meat, choose lean cuts and dishes that are baked, broiled, or grilled rather than fried.

Avoid Too Much Added Sugars and Salt

Some foods are high in added sugars. These foods are often low in other nutrients. They can fill you up, making you less likely to eat more healthful foods. They can also promote tooth decay. Calories from sugars that are not used by the body for energy are stored as body fat. This can lead to unhealthful weight gain. Foods that contain large amounts of added sugars include candy, non-diet soft drinks, and sugary desserts.

Eating too much salt and sodium can also cause problems for some people. Table salt contains sodium, a mineral that helps regulate blood pressure. Too much sodium can increase the risk of high blood pressure. You can avoid eating too much salt by cutting down on salty snacks and not sprinkling salt on your food at mealtimes. You can also use the information on food labels to choose foods lower in sodium.

Balance Food and Physical Activity

In Chapter 3 you learned that being physically fit is important to your health. Try to match how physically active you are with the amount of food you eat. To stay at a healthy weight, you need to eat just what your body requires for energy. To balance your weight with how much you eat, be sure to fit physical activity into your life. Aim for the recommended 60 minutes of moderate
physical activity each day. You can break it up into 15-minute bursts of activity if you need to. You can participate in sports, ride a bike, or go inline skating with your friends. Walk up the stairs instead of using the elevator. Take a brisk walk instead of playing video games or watching television.

**Reading Check** Explain Why is it a good idea to limit your consumption of foods that are high in added sugars?

## Getting the Nutrition Facts

Almost all packaged foods have a Nutrition Facts panel, which contains facts about the nutritional value of one label serving of the product. You can use these facts to help you make good choices about what foods to include in your eating plan.

Look at the Nutrition Facts panel in **Figure 4.1** below. It shows how large one label serving is and the number of calories...

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**FIGURE 4.1**

**GETTING THE FACTS**

The Nutrition Facts panel on a food package label gives you important information about a food’s nutritional value. **How many calories does a label serving of this food contain?**

- **What is the total amount of fat in the product?**
- **How much of that fat is saturated?**
- **How much of that fat is trans fat?**

The serving size is a reference amount. The amounts listed for calories, nutrients, and food substances are based on one label serving of the package’s contents.

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size: 2 boxes (42g)</th>
<th>Serving Per Package: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories: 180</td>
<td>Calories from Fat 40</td>
</tr>
<tr>
<td>Carbohydrate 27g (10% DV)</td>
<td>Carbohydrate 2g</td>
</tr>
<tr>
<td>Protein: 3g</td>
<td>Sugar: 11g</td>
</tr>
<tr>
<td>Cholesterol: 7mg (0% DV)</td>
<td>Sodium: 160mg</td>
</tr>
<tr>
<td>Total Fat: 6g</td>
<td>Total Carbohydrate 27g</td>
</tr>
<tr>
<td>Saturated Fat: 0.5g (0% DV)</td>
<td>Dietary Fiber: 2g</td>
</tr>
<tr>
<td>Trans Fat: 1.5g (0% DV)</td>
<td>Vitamin A (DV): 10%</td>
</tr>
<tr>
<td>Cholesterol: 7mg (0% DV)</td>
<td>Vitamin C (DV): 10%</td>
</tr>
<tr>
<td>Sodium: 160mg</td>
<td>Calcium: 6mg</td>
</tr>
<tr>
<td>Total Carbohydrate: 27g</td>
<td>Iron: 1mg</td>
</tr>
</tbody>
</table>

The % Daily Value column helps you judge the amounts of the listed nutrients in one label serving of the product. The general guideline is that 20 percent or more is a lot and 5 percent or less isn’t very much.

This section shows the suggested amounts of nutrients and food substances the average person should aim for each day. Your individual needs may be higher or lower.

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it contains. Keep in mind that a package may contain more than one serving. If a package has two or more label servings and you eat the whole package, you’re taking in twice the calories than are stated in the Nutrition Facts.

The label also shows percentages of Daily Value (DV) for key nutrients. These show how much one label serving of the food contributes in nutrient amounts to a 2000-calorie diet. Look for foods containing 20 percent or more of the vitamins, minerals, and fiber you need; 20 percent or more DV is high. Foods with 5 percent or less DV are low. Foods containing 5 percent or less of fat, cholesterol, and sodium are often healthy choices.

Finally, pay attention to food label claims on many packaged foods. Food labels often make health claims about food, such as “fat free” or “reduces your risk of heart disease.” Do you ever wonder if you can trust those claims to be true? Actually, the Food and Drug Administration (FDA), a government agency, requires food companies to provide scientific evidence in order to print those claims on food labels. Even so, you should still read the claims carefully. Look on the Internet or ask an adult if you have trouble understanding what a claim means.

Lesson 1 Review

After You Read

Review this lesson for new terms, major headings, and Reading Checks.

What I Learned
1. **Vocabulary** What is fiber?
2. **Identify** Which nutrient group is preferred by the body as a source of energy?
3. **Explain** How do vitamins help your body?
4. **List** Name the six nutrient groups that your body needs to be healthy.

Thinking Critically
5. **Apply** Your friend eats a lot of snacks that are high in fat and added sugars. She also says she doesn’t like fruits or vegetables. How could you influence your peer to make more healthful food choices?
6. **Infer** Why do you think the U.S. government requires a Nutrition Facts panel on packaged foods?

Applying Health Skills
7. **Practicing Healthful Behaviors** Study your school’s weekly lunch menu. Find the most healthful food choices. Then make a plan to include these healthful choices in your daily eating plan.