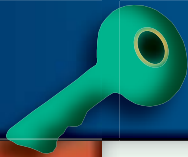


# LESSON 2



## Nutrition



### Quick Write

What is your idea of healthy eating? Create a list of foods you eat during a normal day of school and at home. Don't forget to include anything you drink and snacks. After completing this lesson, consider what changes you may need to make in your food and drink choices.



### Learn About

- what influences food choices
- nutrients and how the body uses them
- making wise food choices

"Let thy food be thy medicine and thy medicine be thy food."

**Hippocrates**, ancient Greek physician

### What Influences Food Choices

Why is making healthy food choices so difficult for young people? One reason may be that healthier food usually takes longer to prepare and costs a little more than fast food. It is also due to the exposure and advertisement of fast foods that make them seem more appealing. One of the most difficult things for young people to do is to eat healthy. That's because they are constantly exposed to many unhealthy food choices and not enough healthier choices. The Kaiser Family Foundation studied 13 television networks and found that 34 percent of food and drink commercials were for candy and snacks. Another 29 percent were for cereal, and 10 percent for beverages. Only 8 percent were for dairy and prepared foods. Combine this advertising with the easy access to fast food stores and drive-thru restaurants that offer tasty but unhealthy foods with high amounts of sugar and fat, and it's easy to see why so many people eat poorly.

### Appetite and Hunger

When you smell popcorn, does the pleasant odor make you want to try some? Does the sight of fresh strawberries make your mouth water? Do you like something crunchy to chew—maybe a good apple, or a fresh carrot? These are signs of your appetite at work. Your **appetite** is *the psychological desire for food*. It may be stimulated by the smell, sight, or texture of food.

Appetite is different from hunger. **Hunger** is *the physical need for food*. When you are hungry, your brain sends a signal to look for something to eat. You may hear your stomach growl or feel a little discomfort. Sometimes that's called a hunger pain. You may also feel tired or light-headed. These signs indicate that your body's supply of food energy and nutrients is running low.



## Vocabulary

- appetite
- hunger
- calories
- nutrients
- nutrition
- nutrient deficiency
- carbohydrates
- nutritionist
- proteins
- amino acids
- complete proteins
- incomplete proteins
- fats
- saturated fats
- unsaturated fats
- triglycerides
- vitamins
- minerals
- hydration
- electrolytes
- fiber
- *trans* fats
- cholesterol
- Dietary Guidelines for Americans
- foodborne illness
- Percent Daily Value

When you eat, the hunger gradually goes away. Your stomach needs about 20 minutes to send a message back to the brain to turn off the hunger switch. This may cause some people to overeat if they eat too fast while their hunger switch is on. Therefore, it's best to eat slowly to allow time for your brain to receive the message that your hunger has been satisfied.

### Food and Emotions

Food can meet emotional needs, too. Do certain foods make you happy? Maybe it's something you eat at a special event like a birthday party or at a Thanksgiving dinner. Perhaps you have favorite foods that make you feel more comfortable when stressed or depressed. Using food to deal with negative emotions is not a healthy way to respond to these feelings. People who eat to relieve stress or boredom may fall into a pattern of overeating; to stay healthy, they need to develop better ways to cope with such feelings.

When you are able to make healthy choices about foods, you are more likely to look, feel, and perform your best.

### Obesity in Young People

Have you ever heard the saying, "you are what you eat"? According to the US Department of Health and Human Services, the current high rates of overweight and obesity among young people in the US is primarily the result of individual behaviors that lead to excessive calorie intake. **Calories** are *units of heat that allow us to measure the energy used by the body and the energy that foods supply to the body*. Many factors contribute to excessive calorie intake. Here are just a few:

- Increased consumption of sugar-sweetened beverages
- Increased snacking
- Larger portion sizes
- More meals purchased or eaten away from home
- More exposure to advertising that encourages food consumption
- Less nutritious foods at fast food locations

From this list, it is easy to see why fast foods are much more popular than eating healthy at school or home. By the end of this lesson, you should have a better understanding of why foods that are better for you should be your first choice in meeting your hunger and appetite needs.

## Why the Body Needs Nutritious Foods

Foods that provide adequate **nutrients**, *substances in food that your body needs*, are essential. Nutrients have many important roles. They give you energy. They build new body tissues and repair cells. They also help your body's processes and systems run smoothly.

You need a wide variety of healthy foods to get all the nutrients your body needs. Good nutrition is one of the main factors in building and maintaining good health. **Nutrition** is *the process of using food and its substances to help your body have energy, grow, develop, and work properly*.

One important reason you eat is to take in calories. You need this energy for everything you do—from running laps to doing your homework.

This lesson will discuss how nutrients benefit the body and how making correct food choices will lead to a healthier lifestyle. You'll be asked to consider the foods you already eat and what you can do to make changes. Now, think about the foods that you like the most. Do you know why you make these food choices? Just as with calorie intake, there are many factors influencing your food choices. Table 3.1 describes some of these factors.

## **Nutrients and How the Body Uses Them**

Everyone needs the same nutrients to maintain good health, but the amount of nutrients needed depends on a person's age, gender, state of health, and level of activity. When you do not get enough of a particular nutrient, you could have a **nutrient deficiency**, *a shortage of a necessary nutrient*. As a young person, you need more calcium than older people do. Calcium helps build strong bones. If you don't eat enough foods that supply calcium, over time, the calcium deficiency could affect the strength of your teeth and bones. In some cases, an eating pattern that lacks calcium-rich foods can lead to osteoporosis, a disease in which bones become brittle and easier to break.

Iron is also important for you because your body makes more red blood cells as you grow. A shortage of iron can lead to a blood disease called anemia.

Table 3.1 Factors That Influence Food Choices

Factors	Description
<b>Family and friends</b>	You may prefer certain foods because you have grown up eating them at home. Other choices may be influenced by your friends. Still other choices you make may be due to a favorite place to eat in your neighborhood.
<b>Cultural background</b>	Different cultures have different traditions about what they eat, and perhaps where, how, and with whom they eat. For example, Mexican-American families eat a lot of beans, corn, and tortillas, while Italian-American families often favor pasta dishes. Consider some of your own family traditions in eating. In addition, many Americans enjoy trying a variety of foods from different cultures.
<b>Food availability</b>	Some foods are regional, growing only in certain areas. Some are seasonal and available only in certain months. Fresh blueberries, for example, are plentiful in summer but hard to find in the winter months. Still, modern transportation and growing methods have expanded the food supply and your choices. Many foods that were once regional or seasonal are now available in many areas year-round.
<b>Time and money</b>	Schedules and budgets can greatly affect a family's food choices.
<b>Resources</b>	Eating fast foods is often less expensive, and the convenience often means it takes less time than preparing a meal at home. Some families buy bulk foods that provide more meals for the dollar.
<b>Advertising</b>	Have you ever tried a food because you heard about it from radio or television, or saw an Internet ad? Ads can influence our choices to buy certain brands and products over and over. They may also persuade us to try new kinds of foods.
<b>Knowledge of nutrition</b>	The more you know about the nutrients in different foods, the better you are at choosing foods that supply the nutritional benefits that you need.
<b>Personal physical or medical factors</b>	Some people have allergies or medical conditions that restrict what they can choose to eat. Among the foods that most often cause allergic reactions are milk, peanuts, wheat, and shellfish.
<b>Personal preferences</b>	Your personal likes and dislikes, and overall health goals, contribute to your food choices. You will have a healthier and more enjoyable eating experience if your preferences include foods that provide nutrients.

Nutritional knowledge and a healthy eating plan are key defenses against long-term health problems. A healthy eating plan gives your body the nutrients it needs every day. It will lower your risk in later years for heart disease as well as other health conditions, especially those related to obesity.

As a young person, you generally need more of most nutrients to support your continued growth and to satisfy your needs for energy. Most people in the United States get plenty of food, yet many still do not get the nutrients they need. This is partly the result of their lifestyles. They often center their eating habits on fast foods and foods high in fat and sugar. Unfortunately, choosing to eat low-nutrient, high-fat foods, along with overeating, can lead to heart conditions, stroke, cancer, diabetes, and other diseases, not to mention the lack of physical fitness that comes with being overweight.

## The Six Categories of Nutrients

Foods provide you with nourishment from more than 40 different nutrients. These nutrients are grouped into six categories: carbohydrates, proteins, fats, vitamins, minerals, and water. Eating a variety of foods that supply a good balance of these nutrients is essential to good health.

### Carbohydrates

**Carbohydrates** are *the sugars and starches that provide your body with most of its energy*. Carbohydrates can be either simple or complex.

Simple carbohydrates, or sugars, are found in fruit, milk, and honey. Sugar is also added to candy, cookies, and other foods.

Complex carbohydrates, or starches, are found in breads, cereals, pasta, rice, potatoes, dry beans, corn, and other starchy vegetables. As your body digests complex carbohydrates, it breaks them down into simple sugars, which are absorbed into the bloodstream to provide energy. Complex carbohydrates break down slower than simple carbohydrates, therefore providing a steady level of energy.

Nutritionists recommend that 45 to 65 percent of your daily calories come from carbohydrates derived from fruits, vegetables, and whole grains. A **nutritionist** is *someone who studies or is an expert in nutrition*.

### Proteins

**Proteins** are *nutrients your body uses to build, repair, and maintain cells and tissues*. They also help your body fight disease, and they provide energy when your body doesn't get enough from other sources.

**Amino acids** are *small units that make up protein*. Your body can produce most amino acids on its own. The remaining ones, called essential amino acids, must come from the food you eat.

Foods from animal sources, such as meat, fish, poultry, eggs, milk, cheese, and yogurt, contain **complete proteins**. These are *proteins that provide all the essential amino acids*. Foods from plant sources, such as soybeans, nuts, peas, and dry beans, contain **incomplete proteins**, which are *proteins that lack one or more of the essential amino acids*. By consuming a variety of plant foods, such as beans, rice, nuts, and peas, you combine incomplete proteins from different sources, making complete proteins that provide essential amino acids. You don't need to eat these foods at the same meal to get the benefit. Just have a good variety throughout the whole day.

## Fats

**Fats** are *nutrients that provide energy and perform many functions for your body*. They carry certain vitamins and promote healthy skin and normal growth. Foods that are high in fats also tend to be high in calories. For this reason, health experts generally recommend that any eating plan include only moderate amounts of fat.

**Saturated fats** are *fats that are solid at room temperature*. They are found mostly in animal and dairy products such as red meat, butter, cheese, and whole milk. An eating pattern that includes too many saturated fats can increase a person's risk of heart disease.

**Unsaturated fats** are *fats that remain liquid at room temperature*. They come mainly from plant sources. Foods containing mostly unsaturated fats include vegetable oils, nuts, avocados, and olives. Unsaturated fats lower cholesterol levels and are considered healthier than saturated fats.

**Triglycerides** are *the chemical form in which most fat exists in food and the chief form of fat storage in the body*. Triglycerides are derived from fats eaten in foods or made in the body from other energy sources such as carbohydrates. Triglycerides are long chains of fatty acids that provide much of the energy your body's cells need to function. High levels of triglycerides circulating in the bloodstream have been linked to heart disease in some people.



**A meal that includes beans, rice, and a leafy vegetable can provide essential vitamins and minerals, along with protein.**

© chas53/Fotolia.com.

## Vitamins

**Vitamins** are *substances needed in small quantities to help regulate body functions*. Because our bodies cannot produce enough of the vitamins we need, we should get our vitamins from food sources. There are two types of vitamins, water-soluble and fat-soluble.

Water-soluble vitamins, such as vitamin C and B, dissolve in water, and will not be stored in your body. They need to be replaced often as part of your daily eating plan.

Fat-soluble vitamins, including vitamins A, D, E, and K, dissolve in fat and can be stored in body fat until needed. Use caution when taking fat-soluble vitamins, because they are stored; too much of these vitamins can cause health problems.

Vitamins keep your immune system in top shape. They help produce white blood cells to fight infections, and they maintain the health of your brain, bones, and heart.

## Minerals

**Minerals** are *elements needed in small quantities for forming healthy bones and teeth, and for regulating certain body processes*. Calcium, phosphorus, and magnesium help build strong bones and teeth. Iron plays a vital role in making red blood cells. Adequate potassium levels help cells function efficiently. Potassium also helps to regulate heartbeat, encourage normal muscle contraction, regulate kidney function, and promote normal body growth. See Table 3.2 for more information about functions and sources of important vitamins and minerals.

## Water

Water is a nutrient that is vital to your life and health. It makes up over half of your body and serves many important functions. Water transports nutrients through your body. It helps you digest food, lubricates your joints, removes wastes, and helps regulate body temperature. You lose water every day in urine and sweat, requiring you to replace it continually. A combination of thirst and normal drinking behavior—especially consuming fluids with meals—is usually enough to maintain normal hydration. **Hydration** is *providing enough water for somebody or something in order to reestablish or maintain a correct fluid balance*. However, if it is particularly hot or you're involved in prolonged physical activity, it is important to drink fluids regularly during and after the activity. Drink plenty of water or other replenishment fluids such as fruit juices, milk, soup, or electrolyte drinks. **Electrolytes** *help to control fluid levels and maintain normal potassium levels in the body*.

Beverages with high levels of caffeine or added sugar should be avoided.

Table 3.2 Vitamins and Minerals: Functions and Sources

Functions	Sources
<b>Vitamin A</b> Promotes healthy skin and normal vision	Dark green leafy vegetables (such as spinach); dairy products (such as milk); deep yellow-orange fruits and vegetables (such as carrots, winter squash, apricots); eggs; liver
<b>B Vitamins</b> A group of eight vitamins needed for a healthy nervous system; helps with energy production	Meat; poultry; eggs; fish; whole grain breads; fruits, cereals, and oats
<b>Vitamin C</b> Needed for healthy teeth, gums, and bones; helps heal wounds and fight infection	Citrus fruits (such as oranges and grapefruit); cantaloupe and strawberries; mangoes; tomatoes; cabbage and broccoli; potatoes
<b>Vitamin D</b> Promotes strong bones and teeth and the absorption of calcium	Fortified milk; fatty fish (such as salmon and mackerel); egg yolks; liver; vegetables
<b>Vitamin K</b> Helps blood clot	Dark green leafy vegetables (such as spinach); egg yolks; liver; some cereals
<b>Calcium</b> Needed to build and maintain strong bones and teeth	Dairy products (such as milk, yogurt, and cheese); dark green leafy vegetables (such as spinach); canned fish with edible bones (such as sardines)
<b>Fluoride</b> Promotes strong bones and teeth; prevents tooth decay	Fluoridated water; fish with edible bones
<b>Iron</b> Needed for hemoglobin in red blood cells	Red meat; poultry; dry beans (legumes); fortified breakfast cereal; nuts; eggs; dried fruits; dark green leafy vegetables
<b>Potassium</b> Helps regulate fluid balance in tissues; promotes proper nerve function	Fruits (such as bananas and oranges); dry beans and peas; dried fruits; dark green leafy vegetables; yogurt; fish
<b>Zinc</b> Helps heal wounds; needed for cell reproduction	Meat; poultry; eggs; dry beans and peas; whole grain breads and cereals



## Other Substances in Food

Other than the major nutrients, foods have other substances. One is fiber, which is important to your health and should be part of your everyday food choices. However, there are also substances that are not good for you in large quantities, including hidden fats, bad cholesterol, added sugars, salt, and caffeine.

### Fiber

**Fiber** is the part of fruits, vegetables, grains, and beans that your body cannot digest. It helps move food particles through your digestive system. Including high-fiber foods in your eating plan may help lower your risk of certain types of cancer and reduce your risk of heart disease. Foods high in fiber include whole grain breads and cereals, fruits and vegetables, and dry beans and peas.

### Hidden Fats

The Centers for Disease Control and Prevention recommend that no more than 25 to 35 percent of teens' daily calories come from fat. It's easy to cut down on the fats you can see. For example, put a smaller amount of butter on your baked potato, or trim the fat from meats. However, fats are often hidden in processed and prepared foods. It's harder to cut down on hidden fats, but it can be done. Reduce the amount of fried food you eat and switch from whole to low-fat milk. Carefully read the labels on packaged foods to check for fats and oils.

**Trans fatty acids**, or **trans fats**, are artificial fats made when hydrogen gas reacts with oil. They can be found in cookies, crackers, icing, potato chips, margarine, and microwave popcorn. *Trans* fats are created when liquid vegetable oil and hydrogen are combined to make oils solid. *Trans* fats pose a higher risk of heart disease than saturated fats, which were once believed to be the worst kind. *Trans* fats not only raise total cholesterol levels, they also deplete high-density, or good cholesterol (HDL), which helps protect against heart disease.

### Cholesterol

**Cholesterol** is a waxy substance used by the body to build cells and hormones, and to protect nerve fibers. Most cholesterol is produced in your liver and circulates in the blood. Cholesterol is also found in foods of animal origin, including meats, chicken, egg yolks, and dairy products. Eating foods high in cholesterol can affect the levels of cholesterol in your blood. The low-density, or bad cholesterol, LDL, can leave deposits on the walls of your blood vessels. This buildup raises the risk of heart attack or stroke. To help reduce LDL levels in your blood, medical experts recommend you limit intake of foods that are high in saturated fat. Many studies have found that regular aerobic physical activity also helps prevent LDL buildup.

HDL can help lower LDL levels. Most of the fat that you eat should come from unsaturated sources: nuts, vegetable oils, and fish are sources of unsaturated fats. Just the opposite of LDL, many studies have shown that regular aerobic physical activity raises HDL levels.

## Added Sugar

Here's an amazing fact. The average American eats about 100 pounds of sugar a year! Try lifting a bag containing 100 pounds of sand or other material. Or just try moving it a few inches along the floor.

Sugar occurs naturally in fruit and milk, and it does provide some good food energy. Sugar is not harmful in moderate amounts. Unfortunately, it is added to many prepared foods such as soft drinks, cookies, candy, breakfast cereal, and even spaghetti sauce. The reality is that you are eating more sugar in an average day than you realize. If you don't pay attention to the amount of added sugar you take in, it may cause you to gain weight from the additional calories, or develop health problems over time.



**Refined sugar is found in many prepared foods.**

© bit24/Fotolia.com

## Sodium

Sodium is another necessary nutrient that helps control the balance of fluids in the body. It occurs naturally in salt, in various foods, and in many prepared sauces. It is also used extensively in processed foods to flavor or preserve the food. Most Americans eat much more sodium than they need. For some people, too much sodium may contribute to high blood pressure and fluid retention. You can lower your sodium intake by substituting spices for salt. There are many tasty spices that can make your meals healthier. Also, use food labels as a guide for how much salt you consume. Food labels will be covered later in the lesson.

The American Heart Association recommends you not consume more than 1,500 milligrams (mgs) of sodium per day. Animal and human studies have shown that excess sodium intake leads to problems with the heart and kidneys.

## Caffeine

Caffeine is a substance that stimulates the nervous system and can become habit-forming. It is an ingredient in "energy drinks," cola, and some other soft drinks. Coffee, tea, and chocolate also have it. Caffeine stimulates the heart rate and the appetite. It can perk you up, but then it makes you feel drowsy so that you want more. For this reason, it's best to limit your intake of products containing caffeine.

## Making Wise Food Choices

How do you know you're getting the nutrients you need? The US government has developed nutrition tools to help Americans make wise food choices. Two such tools are the Dietary Guidelines for Americans and the Nutrition Facts panel. Also, check out ChooseMyPlate.gov.

### Dietary Guidelines for Americans

The **Dietary Guidelines for Americans** are *recommendations about food choices for all healthy Americans age 2 and over*. The guidelines were revised in 2010. They focus on balancing calories with physical activity, consuming more healthy foods like vegetables, seafood, fruits, whole grains, fat-free and low-fat dairy products, and taking in less sodium, saturated and *trans* fats, added sugars, and refined grains.

### Make Smart Choices from Every Food Group

The best way to give your body the balanced nutrition it needs is by eating a variety of nutrient-packed foods every day. Just be sure to stay within your daily recommended calorie needs. Setting the proper goal for the calories you take in will help you maintain a proper body weight.

Your plan should emphasize:

- Fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products
- Lean meats, poultry, fish, beans, eggs, and nuts
- Low quantities of saturated fats, trans fat, cholesterol, salt (sodium), and added sugars
- Controlled portion sizes

**Don't Give In When You Go Out.** It's important to make smart food choices and watch portion sizes wherever you are—at the grocery store, in your favorite restaurant, or running errands. Try these tips:

- At the store, plan ahead by buying a variety of nutrient-rich foods for meals and snacks throughout the week.
- When grabbing lunch, have a sandwich on whole grain bread and choose low-fat or fat-free milk, water, or other drinks without added sugars.
- In a restaurant, choose grilled, steamed, or broiled dishes instead of those that are fried or sautéed in crème sauce.
- On a long trip, pack some fresh fruit, cut-up vegetables, string cheese strips, or a handful of unsalted nuts—to help you avoid impulsive, less healthful snacks.

Also see the box, “Tips for Eating Healthy When Eating Out,” for some additional advice on making smart eating choices when you're eating out.

## Tips for Eating Healthy When Eating Out

- As a beverage choice, ask for water or order fat-free or low-fat milk, unsweetened tea, or other drinks without added sugars.
- Ask for whole-wheat bread for sandwiches.
- In a restaurant, start your meal with a salad packed with veggies to help control hunger and feel satisfied sooner.
- Ask for salad dressing to be served on the side. Then use only as much as you want.
- Choose main dishes that include vegetables, such as stir fries, kebabs, or pasta with a tomato sauce.
- Order steamed, grilled, or broiled dishes instead of those that are fried or sautéed.
- Choose a small or medium portion. This includes main dishes, side dishes, and beverages.
- Order an item from the menu instead of heading for the all-you-can-eat buffet.
- If main portions at a restaurant are larger than you want, try one of these strategies to keep from overeating:
  - Order an appetizer-sized portion or a side dish instead of an entrée.
  - Share a main dish with a friend.
  - If you can chill the extra food right away, take leftovers home in a doggy bag.
  - When your food is delivered, set aside or pack half of it to go immediately.
  - Resign from the “clean your plate club”—when you’ve eaten enough, leave the rest.
- To keep your meal moderate in calories, fat, and sugars:
  - Ask for salad dressing to be served on the side so you can add only as much as you want.
  - Order foods that do not have creamy sauces or gravies.
  - Add little or no butter to your food.
  - Choose fruits for dessert most often.

Source: United States Department of Agriculture, 2014. <http://www.choosemyplate.gov/healthy-eating-tips/tips-for-eating-out.html>.

### Mix Up Your Food Choices within Each Food Group

**Focus on Fruits.** Eat a variety of fruits—whether fresh, frozen, canned, or dried—rather than a fruit juice. For a proper diet, you should have two cups of fruit each day. When buying canned fruit, choose fruits with no added sugar.

**Vary Your Veggies.** Eat more dark green and dark, leafy green vegetables. Vary your choices between broccoli, kale, and others. Eat orange vegetables such as carrots, sweet potatoes, pumpkins, and winter squash. Don’t forget beans and peas. Eat a variety of pinto beans, kidney beans, black beans, garbanzo beans, split peas, and lentils.

**Count on Your Calcium.** Get three cups of low-fat or fat-free milk—or an equivalent amount of low-fat yogurt and/or low-fat cheese—every day. One-and-a-half ounces of cheese equals one cup of milk. If you don't or can't drink milk, you can try lactose-free milk products as an alternative. Also choose calcium fortified foods and beverages.

**Make Your Grains Whole.** Eat at least three ounces of whole grain cereals, breads, crackers, rice, or pasta every day. One ounce is about equal to one slice of bread, one cup of breakfast cereal, or one-half cup of cooked brown rice or pasta. Look to see that grains such as wheat, rice, oats, or corn are referred to as “whole” in the list of ingredients.

**Go Lean with Protein.** Choose lean meats and poultry. Bake it, broil it, or grill it. And vary your protein choices—with more fish, beans, peas, nuts, and seeds.



#### Guidelines for a balanced diet.

*Courtesy of [www.ChooseMyPlate.gov](http://www.ChooseMyPlate.gov)*

### keys to LEADERSHIP

Your food and physical activity choices affect your health—how you feel today, tomorrow, and in the future.

- Make at least half your grains whole grains
- Vary your veggies
- Focus on fruit
- Get your calcium-rich foods
- Go lean with protein

Start with these ideas for a healthy diet. Changes that you can make today can pave the way to better health, more energy, and a new, fitter you.

### Find Your Balance Between Food and Physical Activity

Becoming healthier isn't just about eating well—it's also about physical activity. Regular exercise is important for your overall health and fitness. It helps you control body weight by balancing calories you take in as food with the calories you use up every day. The President's Council on Fitness, Sports, and Nutrition recommends being physically active for 60 minutes every day. Increasing the intensity level of your physical activity brings even greater health benefits and body weight control. We will discuss more about the benefits of physical activity in the next lesson.

You should set a goal to maintain a healthy weight that helps you look and feel good. It lowers your risk for heart disease, some cancers, and diabetes. Your doctor or health care provider can determine if you are at a healthy weight for your height and age.

## Get the Most Nutrition Out of Your Calories

Active young people need to take in a fairly large number of calories. The US Department of Agriculture's Dietary Guidelines define *active* as a lifestyle that includes moderate physical activity equivalent to walking more than three miles per day at a pace of three to four miles per hour. This is in addition to the normally light physical activity one does each day.

Using this guideline, active female teens should consume approximately 2,400 calories a day. Active male teens should consume 2,800 to 3,200 calories a day. However, the entire calorie intake could be used up on a few unhealthy, empty-calorie items. Empty calories are foods that have high amounts of sugar and fats, and don't contain the full range of vitamins and nutrients the body needs to be healthy. For the best benefits, you should try to eliminate foods that are high in fats, sugars, and salt.

To get the most nutrition out of your calories, do the following:

- Choose foods packed with vitamins, minerals, fiber, and other nutrients, but lower in calories. Pick foods like fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products more often.
- Choose foods that are low in saturated fat, *trans* fat, and cholesterol, and moderate in total fat. Foods high in saturated fat (such as butter and whole milk) and *trans* fat (such as cookies, chips, and margarine) raise blood cholesterol levels.
- Choose beverages and foods that reduce your intake of sugars. Soft drinks provide many calories but few nutrients. They can also contribute to tooth decay. Try to limit your intake of drinks and foods containing added sugar. Check the ingredient list on packaged foods. If sucrose, corn syrup, honey, fructose, or other sweeteners are listed first or second, these foods are high in sugars.
- Choose and prepare foods with less salt. High salt or sodium intake can contribute to high blood pressure and cause calcium loss. If you normally add salt to food, try using herbs such as basil or oregano or spices such as paprika instead.

## Play It Safe with Food

You should know how to prepare, handle, and store food safely. Part of good nutrition habits involves making sure that foods are safe from harmful bacteria and other contaminants. Doing so reduces the risk of **foodborne illness**, *a sickness that results from eating food that is not safe to eat*. Here are some important things to remember:

- Thoroughly clean your hands, food-contact surfaces, fruits, and vegetables. Avoid washing or rinsing raw meats and poultry near other foods, or you could spread bacteria.
- Separate raw, cooked, and ready-to-eat foods when shopping, preparing, or storing them.
- Cook meat, poultry, and fish to safe internal temperatures to kill harmful microorganisms.
- Chill perishable foods promptly and thaw foods properly, according to their directions.

## Nutrition Labeling

All packaged foods carry a label titled “Nutrition Facts.” These labels provide valuable and important information for making healthy food choices. Food labels compare products to the **Percent Daily Value**, *the percent of the recommended daily amount of a nutrient provided in a serving of food*. The Percent Daily Value is based on an intake of 2,000 calories per day. Understanding how to read a food label, like the one shown in Figure 3.10, can help you select more nutritious foods to maintain a properly balanced eating pattern.

## A Vegetarian Diet

A vegetarian is a person who eats mostly or only plant foods. Some people are vegetarians for religious or cultural reasons. Others may make this choice because of concern for the environment or for how animals used as food are raised or slaughtered. However, there are many people who become vegetarians for health reasons. By cutting out the saturated fats and cholesterol found in many animal products, vegetarians may reduce their risk of cardiovascular disease and some cancers and control their weight. Also, vegetarians tend to consume more fruits, vegetables, and whole grains—foods that are linked to a smaller risk of many health problems. No matter which plan a person follows, a vegetarian eating style still involves choosing nutritious foods. Table 3.3 describes four separate vegetarian eating styles.



**Many people become vegetarians for health reasons.**

© Ariwasabi/Fotolia.com

Food labels provide important nutritional information that can help you make sensible food choices.

<b>Nutrition Facts</b>	
Serving Size 2/3 cup (55g) Servings Per Container About 8	
<b>Amount Per Serving</b>	
<b>Calories</b> 230	Calories from Fat 72
<b>% Daily Value*</b>	
<b>Total Fat</b> 8g	<b>12%</b>
Saturated Fat 1g	<b>5%</b>
Trans Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>12%</b>
Dietary Fiber 4g	<b>16%</b>
Sugars 1g	
<b>Protein</b> 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000    2,500
Total Fat	Less than 65g    80g
Sat Fat	Less than 20g    25g
Cholesterol	Less than 300mg    300mg
Sodium	Less than 2,400mg    2,400mg
Total Carbohydrate	300g    375g
Dietary Fiber	25g    30g

- 1 **Serving size**—The nutrient content of the food is calculated according to its serving size. If you double the servings you eat, you double the calories and nutrients, including Percentage of Daily Value.
- 2 **Calories (and calories from fat)**—Calories provide a measure of how much energy you get from a serving of this food. Remember, the number of servings you consume determines the number of calories you actually eat.
- 3 **Nutrients (fats and sodium)**—The amount of total fat in one serving is listed, followed by the amount of *trans* and saturated fat. The calories from fat are shown to the right of the total calories per serving. Sodium and cholesterol amounts are also provided. Eating too much fat, saturated fat, *trans* fat, cholesterol, and sodium may increase your risk of certain chronic diseases such as heart disease, cancer, or high blood pressure.
- 4 **Nutrients (vitamins, fiber, and minerals)**—Most Americans don't get enough dietary fiber, vitamins, calcium, and iron in their diets. Eating enough of these nutrients can improve your health and help reduce the risk of some diseases and conditions.
- 5 **Percentage of Daily Value (%DV)**—The %DV can help you determine if a serving of food is high or low in a nutrient. You can use the %DV as a frame of reference whether you consume more or less than 2,000 calories a day. The %DV helps you interpret grams and milligrams by using a uniform scale for the day (0–100%DV). Each nutrient is based on 100 percent of the daily requirements for that nutrient. By referring to these numbers, you can tell whether foods are high or low in certain nutrients.
- 6 **Understanding footnote on bottom of nutrition facts label**—The footnote in the lower part of the nutrition label tells you percentage (%) of Daily Values is based on a 2,000 calorie diet. This statement must be on all labels. The entire footnote may not be there if the package is too small. However, all labels must contain the first line after the asterisk (\*).

You can find more information about Nutrition Facts Labels by going to: <http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/default.htm>.

**FIGURE 3.10**

What the Food Label Tells You



Table 3.3 Vegetarian Eating Plans

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

The main concern for vegans is getting enough protein without consuming any red meat, poultry, or seafood. Vegans are able to get their protein requirements through plants: grains, vegetables, nuts, and seeds. When meals and snacks contain a variety of plant-based foods and calorie intake is sufficient to meet energy needs, protein needs are also met.

 **CHECKPOINTS**

## Lesson 2 Review

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

1. What is the difference between appetite and hunger?
2. What are calories? What do they measure?
3. What is nutrition?
4. Name four factors that contribute to food choices.
5. Why is protein important to your body?
6. Why is calcium needed in your diet?
7. What are *trans* fats?
8. What kinds of foods contain added sugars?
9. Name two foods from each of the five food groups identified in the Dietary Guidelines for Americans.
10. How much physical activity should you do each day?
11. Define foodborne illnesses. How can foodborne illness be prevented?
12. How is nutrient content on the nutrition fact label calculated?
13. What foods are included in a lacto vegetarian plan?

### APPLYING YOUR LEARNING

14. Read the Nutrition Facts panel on the label of three foods you eat during a typical day. Compare the nutritional content on these labels with the recommended Dietary Guidelines for Americans. How does your daily intake compare? Write a short paragraph comparing your daily intake with the recommended Dietary Guidelines.