Reading Skill

COMPARE AND CONTRAST When you compare things, you tell how they are alike. When you contrast things, you tell how they are different. Use the Reading in Health Handbook on pages 372-383 and this graphic organizer to help you read the health facts in this chapter.

Health Graph

INTERPRET DATA Americans eat a lot of fruits and vegetables. At least five servings a day are recommended for good health. What is the difference in the percent of people who eat the least amount of fruits and vegetables and the people who eat the greatest amount?

Daily Physical Activity

Eating the right foods in the right amounts is one way to stay healthy. Being physically active is another way.

Be Active! Use the selection, Track 3, Late for Supper, to use some food energy.
Lesson Focus
Your digestive system breaks down food to give your body energy and building materials.

Why Learn This?
Eating the right foods in the right amounts can help keep you healthy.

Vocabulary
nutrients
enzymes
carbohydrates
fats
proteins
vitamins
minerals

Food—Fuel for the Body

Food As Fuel

Your body is a little like a car. A car needs fuel to run, and so do you. While most cars use gasoline as fuel, the human body uses food. Burning fuel releases energy the car uses to run. A car doesn't need to change gasoline into another form in order to release this energy. Your body is different. It must digest, or break down, food before it can use the nutrients food contains.

Nutrients (nuh-tree-uhnts) are substances in food that provide your body with energy. Nutrients also provide building materials the body needs for growth, repair, and daily activities.

Breaking down food is your digestive system's main function. When your digestive system breaks down food, it releases several kinds of nutrients. These include carbohydrates, fats, and proteins.

**COMPARE AND CONTRAST** How are your body and a car alike? How are they different?

Did You Know?
The small and large intestines are like long hoses connected to each other. In an adult, the small intestine is about 23 feet long and 1 to 2 inches wide! The large intestine is about 5 feet long. It's called the large intestine because it is wider than the small intestine. It is about \(2\frac{1}{2}\) inches across.

Digestion

Let's follow a bite of a turkey sandwich to discover how your digestive system breaks down the sandwich into nutrients your body needs. Digestion begins in your mouth. Your teeth chew the bite into smaller pieces. Your saliva contains enzymes (en-zyermz), chemicals that help break down foods to release nutrients. Different enzymes are needed to digest different foods.

After you swallow, the food mass moves toward your stomach. There, the partly digested food is squeezed and churned. And more nutrients are released from your bite of sandwich.

Next, the food mass moves into the small intestine, where more enzymes finish the job of digestion. Now the nutrients are ready to move into your bloodstream and into your body cells. Anything that cannot be digested passes into your large intestine.

**SEQUENCE** List the parts of your digestive system in the order that food moves through them.

1. Enzymes in your saliva begin to break down starch in the bread.
2. In your stomach, acid begins to break down the meat in the sandwich.
3. Additional enzymes complete digestion in your small intestine. Then nutrients pass into your blood. You can review this process on page 8.
Carbohydrates and Fats

Most of the energy your body needs comes from nutrients called carbohydrates. The carbohydrates (kar'boh-nur-dray'tz) we eat most are sugars and starches.

Some foods, such as syrup and hard candy, are nothing but sugar. Many other foods, including fruits, some vegetables, and milk, contain sugars along with other nutrients. Starches are made of many sugars linked together. Beans, breads, and pasta are all rich in starches. During digestion, your body breaks down starches into sugars.

The nutrients that contain the most energy are fats. Plants, animals, and people store excess energy as fats. Butter, margarine, and oils are mostly fats. Most junk-food snacks, such as chips, cookies, cakes, and chocolate, have lots of fat. Foods such as meats, nuts, and milk products also contain fats. But unlike junk food, these foods also contain other important nutrients.

**DRAW CONCLUSIONS** Which food would supply more energy—a handful of raisins or a handful of peanuts? Why?

Proteins

You've certainly grown a lot since you were a baby. You can thank nutrients called proteins for most of this growth. Proteins (pro'tenz) are the building blocks of your body. Your body uses proteins to build and repair cells.

Remember that your body can store extra energy in the form of fats. Your body cannot store extra protein. It needs a new supply every day. You get proteins just as you get carbohydrates and fats—from the foods you eat. Some foods have more proteins than others. Meat, fish, eggs, and milk products are all good protein sources. Dried beans and peas, nuts, and grains also contain proteins.

**DRAW CONCLUSIONS** Why do you think a child needs more protein than an adult?
**Vitamins and Minerals**

In addition to carbohydrates, fats, and proteins, there are other nutrients that your body needs in smaller amounts. **Vitamins** (vī-təm-ənz) are nutrients that help your body perform specific functions. They are essential to life. Some vitamins help your body use other nutrients. Other vitamins help keep parts of your body strong and healthy. Your body cannot make most vitamins. It has to get them from foods you eat.

**Minerals** (mār-uh-uhlz) are another kind of nutrient, helping your body to grow and work. Minerals help keep your bones and teeth strong, help your body release energy from food, and keep your cells working well. The photographs below show foods that are rich in different vitamins and minerals.

**COMPARE AND CONTRAST** Name two ways in which calcium is similar to vitamin A and two ways it is different.

- Vitamin A keeps your skin and eyes healthy. It is found in yellow and orange vegetables, tomatoes, and leafy green vegetables.
- Vitamin B₁ is needed to release energy from nutrients. It is found in meats, fish, whole-grain breads, and some beans.
- Iron keeps oxygen moving throughout the body and protects against infection. It is found in meats, leafy green vegetables, beans, dried fruits, and nuts.
- Calcium builds strong bones and teeth, helps muscles work, and helps blood clot. It can be found in milk, milk products, and broccoli.
- Phosphorus builds strong bones and teeth and helps cell function. It is found in meat, poultry, dried beans, nuts, milk, and milk products.

**Water and Fiber**

Water is the nutrient your body needs most. You need water to digest food, to transport nutrients to your cells, and to build new cells. Water helps keep your body temperature stable. It also helps remove carbon dioxide, salts, and other wastes from your body.

You get some water from the foods you eat, but you get most of the water you need from drinks like water, milk, and juice. To stay healthy, most people need six to eight glasses of water each day.

**Fiber** is another part of a healthful diet. Your body needs fiber to help move other foods through the digestive system. Fresh vegetables, fruits, and whole grains are all high in fiber.

**MAIN IDEA AND DETAILS** What are two important things water does for your body?

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**Lesson 1 Summary and Review**

1. **Summarize with Vocabulary**
   Use vocabulary from this lesson to complete the statements.
   - Nutrients with a lot of energy are ____ and ____. Nutrients called ____ are used to build and repair cells in your body. Your body cannot make most _____. Your blood needs iron, a ____, to carry oxygen throughout your body.
   - What are the main uses of nutrients in your body?

2. **Critical Thinking** Why is water a nutrient, even though most of the water you take in doesn’t come from food?

3. **COMPARE AND CONTRAST** Draw and complete this graphic organizer to show how carbohydrates and proteins are alike and different.

   **Topic:**
   - Alike
   - Different

   **Write to Inform—How-To**
   Describe how a person could design a weekly menu that includes all the necessary nutrients every day.
Lesson Focus
The Food Guide Pyramid groups foods with similar nutrients and shows how many servings from each food group the average person should have each day.

Why Learn This?
You can use the Food Guide Pyramid to help you plan a balanced diet.

Vocabulary
nutritionist
Food Guide Pyramid
serving

The USDA Food Guide Pyramid
People who work in supermarkets arrange similar foods together so they are easy to find. Nutritionists do something very similar but for a different reason. A nutritionist is a scientist who studies nutrition and healthful diets. Look at the Food Guide Pyramid, which is a tool to help you eat a balanced diet. It was prepared by nutritionists at the United States Department of Agriculture (USDA).

If you look carefully, you will see that the nutritionists grouped each food with other foods that have similar nutrients.

They arranged the groups in a pyramid form so that you can quickly see how many servings from each food group you should eat every day. A serving is the measured amount of food recommended for a meal or snack. Generally, you should eat more servings per day of foods near the base of the pyramid than foods near the top.

MAIN IDEA AND DETAILS What two kinds of information does the Food Guide Pyramid give you?

Information Alert!
Nutrition As scientists learn more about nutrition and health, the USDA Food Guide Pyramid may change.

For the most up-to-date information, visit The Learning Site.
www.harcourtschool.com/health
A Balanced Diet

Your body needs the right amounts of different nutrients each day to stay healthy. You get those nutrients by eating a balanced diet. The foods in each group of the USDA Food Guide Pyramid contain similar nutrients. That means you can substitute one food for another in the same group. For example, instead of meat, you could eat fish or eggs. You get many of the same nutrients in fish and eggs as you do in meat.

Bread, Cereal, Rice, and Pasta Group

Foods in this group are made from grains, such as wheat and rice. Grains contain carbohydrates, protein, fiber, minerals, and vitamins. You should eat six to nine servings daily from this group. A serving is one slice of bread, 1 cup of dry cereal, or 1/2 cup of cooked pasta.

Fruit Group

Fruits contain carbohydrates, including sugar, fiber, vitamins, and minerals. You should eat two to four servings daily from this group. A serving is one apple, one small banana, or fifteen grapes.

Vegetable Group

Vegetables contain many vitamins and minerals. Many vegetables also contain fiber and carbohydrates, such as starch. You should eat three to five servings daily from this group. A serving is 1/2 cup cooked vegetables or 1 cup of salad or raw vegetables.

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group

These foods contain protein, fats, vitamins, and minerals. You should eat two to three servings daily from this group. A serving is 3 ounces of cooked meat, poultry, or fish (about the size of a deck of cards), one egg, or a handful of nuts.

Milk, Yogurt, and Cheese Group

This group is sometimes called the dairy group because all of these foods are made from milk. Milk products contain a lot of carbohydrates, protein, fats, and minerals. You should eat three servings daily from this group. A serving is 8 ounces of low-fat milk, 8 ounces of yogurt, or 1 1/2 ounces of cheese.

Fats, Oils, and Sweets Group

These foods contain a lot of carbohydrates (sugars) and fats, but not many other nutrients. You should eat only small amounts of foods from this group, and not every day.

By eating a variety of foods from each food group every day, you will be eating a balanced diet. You will be giving yourself the nutrients you need for energy and for your body to grow and repair itself. Just be careful to limit the amount of fats and sweets you eat.

SUMMARIZE Name the six food groups, and give examples of at least two foods from each group.
Planning Meals

You can use the USDA Food Guide Pyramid to plan a healthful snack when you get home from school. A healthful snack would include foods from several of the food groups, except the Fats, Oils, and Sweets Group.

When planning your snack menu, think about what you ate for breakfast and lunch. Think about what you might eat for dinner. Check the number of servings recommended on each level of the pyramid. Design your snack so that it gives you more of the foods you might not get enough of during the rest of the day.

The menu below shows what Keya's mother has planned for dinner each night. Which food groups are represented in the menu? Which food groups are missing?

**COMPARE AND CONTRAST** Suppose you aren’t allowed to eat the same foods for your after-school snack two days in a row. What menu could you make up so that your snack on Tuesday includes the same food groups as your snack on Monday?

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**Quick Activity**

Lunch menu The lunch Jennie prepared for herself and a friend included a peanut butter sandwich made with whole-wheat bread. But her friend is allergic to peanuts. What kind of sandwich could Jennie substitute for the peanut butter one?

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**Lesson 2 Summary and Review**

1. **Summarize with Vocabulary**
   - Use vocabulary and other terms from this lesson to complete the statements.
   - The ____ was prepared by USDA ____ to show how a person might plan a balanced _____. It tells how many ____ from each food group people should eat every day.

2. **Which food group contains foods you should choose least often?**

3. **Critical Thinking**
   - What foods could you substitute for a friend who doesn’t eat meat?

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**Write to Inform—Explanation**

List the foods you like to eat, and explain whether they make a balanced diet or not.
Eating Healthfully

Lesson Focus
To stay healthy, a person needs to eat only as many servings as his or her body needs each day.

Why Learn This?
Eating more or fewer servings than your body needs can be unhealthful.

Vocabulary
portion control
anorexia
calories
energy balance

Portion Control

Almost everyone who eats in a fast-food restaurant has been asked this question: “Do you want to supersize that?” Supersizing means adding more food—sometimes a lot more—for a little extra money. Every time you supersize a meal, you are eating two or three or more additional servings of food. The items that are most often supersized are those that you should be eating less of, such as fries, soft drinks, and shakes. These often lack important nutrients.

You need to eat a variety of foods to get all the nutrients your body needs. But you also need to control the size of the portions you eat. Portion control means limiting the number of servings you eat and the sizes of the servings. Without portion control, you may gain more weight than is healthy. In the United States, more than 15 percent of preteens are greatly overweight. Being greatly overweight as an adult is called obesity. Obesity can double the chances of getting diseases such as diabetes and heart disease.

Overweight 6–11 Year-Olds in the United States 1963 to 2000

Obesity isn’t the only problem related to portion control. As they grow, many teenage girls think they are overweight, whether they really are or not. To avoid gaining weight, some eat smaller or fewer servings than their bodies need to stay healthy.

About 5 percent of young women develop a serious eating disorder called anorexia (an-uh-reks-ee-uh). Anorexia is excessive dieting and, at times, self-starvation. Starvation means not eating at all. Anorexia causes poor general health, low blood pressure, heart problems, bone weakness, and even death.

**COMPARE AND CONTRAST** How are serving size and portion control alike? How are they different?

Low self-esteem sometimes causes young women to “see” themselves as overweight, even when they are not.
Energy Balance

To keep your body at a healthy weight, you must balance the calories you take in with the calories you use up. Calories are a measure of the amount of energy in a food. All three nutrient groups—carbohydrates, fats, and proteins—contain calories. Your body can use these nutrients for energy. Carbohydrates and proteins have the same number of calories—about 4 per gram of food eaten. Fat has about 9 calories per gram.

When you take in more calories per day than you need, your body changes the excess calories into fat, and you gain weight. If you use more calories per day than you take in, your body uses stored fat for energy, and you lose weight. The ideal, called energy balance, is to take in the same number of calories as you use. Energy balance keeps you from gaining weight or losing weight. The best way to keep your body at a healthy weight is to combine good eating habits with regular exercise. You will learn more about the benefits of exercise in Chapter 4.

Calories Used per Hour

<table>
<thead>
<tr>
<th>Activity</th>
<th>Calories Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>155</td>
</tr>
<tr>
<td>Swimming</td>
<td>345</td>
</tr>
<tr>
<td>Basketball</td>
<td>430</td>
</tr>
<tr>
<td>Running</td>
<td>455</td>
</tr>
</tbody>
</table>

SUMMARIZE What is the best way to keep your weight the same as it is now?

Athletes can usually eat a lot because they use more calories than the average person.

Lesson 3 Summary and Review

1. Summarize with Vocabulary
   Use vocabulary from this lesson to complete the statements.
   The amount of energy in food is measured in ____. Taking in and using the same amount of food energy is called ____. Gaining or losing weight is often the result of poor ____. Supersizing meals can cause weight gain, which can lead to health problems. Excessive dieting, or ____, is also unhealthy.

2. Why is portion control important?

3. Critical Thinking What might happen to your muscles if you exercise a lot but don't take in enough calories?

4. COMPARE AND CONTRAST Draw and complete this graphic organizer to show how obesity and anorexia are alike and different.

   Topic: Alike Different

   - Topic: Alike
   - Topic: Different

   - Topic: Alike
   - Topic: Different

   - Topic: Alike
   - Topic: Different

5. Write to Inform—Explanation Research, then explain why someone shouldn't gain or lose weight too quickly.
Influences on Food Choices

Family, Friends, and Culture Affect Food Choices

The United States is full of people who came here from other countries and brought their foods with them. The cultures of your parents and grandparents influence your food choices the most. How can the country where your family came from influence what you eat?

Family members can influence the foods you eat, too. Suppose you have an older brother whom you admire. You might want to imitate his food choices. Or, if you don’t get along with him, you might choose foods that are different from those he chooses. The same is true of your classmates. The way you feel about them might make you go along with or reject their food choices. No matter what kinds of foods you choose, you should make sure they are healthful.

Quick Activity

Compare Pyramids
Compare sources of protein and serving sizes in the USDA Food Guide Pyramid and one of the pyramids above. Colors show similar food groupings. Then make a table of any differences.
Seasons Affect Food Choices

Do you like a hot bowl of soup or maybe a cup of hot chocolate on a cold winter day? A cool salad and an ice-cold glass of milk might be better if the weather is hot and humid. People often eat different foods depending on the weather. What foods do you like in different kinds of weather?

People used to eat different things during different seasons, too. Your parents and grandparents had to wait for late summer to find fresh corn in the market. They could buy canned or frozen corn in the winter, but not fresh. Some foods, like apples and potatoes, are easy to keep fresh. But strawberries, blueberries, tomatoes, and peppers spoil easily. So why can we find all these fruits and vegetables in most supermarkets all year? Look carefully at the labels on these foods and you will find the answer.

Many of these foods are grown in countries like Mexico, Panama, and Brazil, where it's warm all year.

SUMMARIZE Why don't seasons influence a person's choice of foods much anymore?

Cost and Unit Price Affect Food Choices

Foods imported from other parts of the world usually cost more than those produced locally. This may influence what people eat. For example, peaches grown in Chile may be available in February, but they may be too expensive for most families. So, they may buy frozen or canned peaches instead.

Unit price, or the cost of a certain amount of a food, may also influence choice. Suppose a 10-oz can of Brand A peas costs $0.60, while a 12-oz can of Brand B costs $0.66. Which is the better buy? The unit price of Brand A is $0.06/oz, while the unit price of Brand B is $0.055/oz. Brand B is more economical and may be the choice of many shoppers.

Unit pricing also allows shoppers to choose the most economically sized package of the same brand. Buying a half-gallon of juice, for example, is usually less expensive per ounce than buying two quarts.

DRAW CONCLUSIONS Which is more economical—a 6-oz box of cereal for $2.49 or a 12-oz bag of the same cereal for $4.89?
Emotions Affect Food Choices

Often, people who feel stress or who are upset are likely to eat unhealthful foods. Some people eat large amounts of food or they eat junk food, like chips, cookies, and ice cream when they are upset. These kinds of foods are sometimes called comfort foods, because people think eating them makes them feel better. Other people stop eating altogether when they are upset or stressed.

Unfortunately, it won't help your feelings to eat lots of food, to eat junk food, or to eat nothing at all. Eating a balanced diet is more likely to make you feel better. The nutrients provided by the right amounts of healthful foods help you deal with stressful situations.

Even when you're feeling fine, you might choose foods because of some emotion. For example, if your grandma always makes pizza when you visit, you might enjoy having pizza with your friends because it reminds you of the fun you have at your grandma's.

Did You Know?
If you drink a 12-ounce can of caffeinated cola, you will get almost as much caffeine as there is in a cup of instant coffee. Cola has about 45 milligrams of caffeine, and coffee has about 60 milligrams. A cup of decaffeinated coffee has only 3 milligrams.

Health Concerns Affect Food Choices

Your food choices can be affected by how your body reacts to certain foods. If you have a food allergy, you probably become ill if you eat the food you are allergic to. A food allergy (al-er-je) is a bad reaction to a food that most other people can eat. Food allergies can give people rashes, upset stomachs, and headaches. Sometimes food allergies interfere with breathing. People who have severe allergic reactions to certain foods can even die.

Some foods contain chemicals that change the way the body functions. For example, caffeine is a chemical that speeds up body activity. It can make you jittery and keep you awake at night. Caffeine is found in coffee, tea, chocolate, and many soft drinks. You should either avoid foods that have caffeine or limit the amount you eat or drink.

Illnesses can also influence people's food choices. For example, people with diabetes must keep track of the carbohydrates they eat. People with heart disease should limit the amount of fats they eat. And people with high blood pressure should avoid salty foods.
A number of different foods, including peanuts, strawberries, shellfish, and milk, may cause allergies. If you discover that you are allergic to certain foods, you should avoid those foods.

If you are already healthy and want to stay that way, you should eat a healthful diet. Eat a wide variety of foods so you get all the nutrients you need. Avoid foods high in sugar, fat, and salt. Be aware of the amounts of food you eat, too. Too much of a good thing can still be bad for you. Follow portion size guidelines. However, don’t cut out something altogether unless you are allergic to it. You still need carbohydrates, fats, and proteins—just not in large amounts.

**Cause and Effect** Identify three possible effects of caffeine on a person’s body.

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### Lesson 4 Summary and Review

1. **Summarize with Vocabulary**
   Use vocabulary and other terms from this lesson to complete the statements.
   - If you break out in a rash after eating a certain food, you may have a _____. This is a chemical found in some foods and drinks that can make you jittery. People who have _____. should limit the amount of carbohydrates they eat.

2. **Give an example that shows how unit price can influence a person’s choice of foods.**

3. **Critical Thinking** Why is it a bad idea to eat large amounts of healthful foods?

4. **Compare and Contrast**
   Choose two countries whose foods you eat. Draw and complete this graphic organizer to show how the foods of these countries are alike and different.
   
   **Topic:** Alike
   
<table>
<thead>
<tr>
<th>Alike</th>
<th>Different</th>
</tr>
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<tbody>
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</tbody>
</table>

5. **Write to Inform—Explanation**
   Describe how your family influences your food choices.

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### Responsibility

#### Self-Control

As you grow older, you must take more and more responsibility for your health. This includes choosing healthful foods. It also includes practicing self-control. With self-control you can choose portion sizes that are right for you.

When you look at three popcorn containers at a theater refreshment stand, you might be tempted to get the biggest one. Even if you aren’t very hungry, the smell may be tempting you. Or maybe it’s the price—the biggest one might cost only a little more than the medium size.

But is the biggest container the most healthful for you? Popcorn is made mostly of carbohydrate. On its own, popcorn is a healthful snack. But at most theaters, popcorn is cooked in fatty oil and covered with butter and salt. Too much carbohydrate, oil, butter, and salt are not good for you.

#### Activity

Suppose you are the person at the theater refreshment stand. What should you do? You can ask for the popcorn without butter and salt, or you can have just a little of each. You can buy the small container or you can share the larger one with a friend. Write about and explain a healthful choice.
Lesson Focus
Food labels and advertising can influence the choices you make when you are selecting foods.

Why Learn This?
Reading food labels and analyzing advertisements can help you make healthy food choices.

Vocabulary
ingredients, additives, preservatives

Food Labels Provide Information About Nutrition
What's in a box of macaroni and cheese? You might think it's just macaroni and cheese. In fact, even something as simple as macaroni and cheese is made up of many different ingredients. **Ingredients** (in-GRÉE-dee-uhnts) are all the things that make up a food. What are the ingredients in macaroni and cheese? Look at the label on the following page to find out.

On every box of macaroni and cheese—and on every packaged food—there is a Nutrition Facts label. It tells you how big a serving size is and how many servings are in each package. It also tells you how many calories a serving contains and the nutrients that are in every serving. The label even tells you how much of each day's recommended nutrients one serving provides.

Quick Activity
Analyze Food Labels
Study the food labels on the boxes of two different dry cereals. Make a table comparing the nutritional values of the two cereals. Which cereal gives you more fiber? Less sugar? More calories? More protein?

You can learn a lot about what you are eating by reading the Nutrition Facts labels on packaged foods. ▶

The Nutrition Facts label also tells you what nutrients are in the food. Many of the ingredients in the macaroni and cheese, such as wheat and milk, are on the Food Guide Pyramid. Some, like calcium and vitamin D, are also nutrients. Other ingredients are additives and preservatives.

**Additives** (a-duh-tivz) are things food manufacturers add to foods. Some additives, such as sugar, are nutrients. Other additives, such as salt and food coloring, change the way a food tastes or looks. Manufacturers sometimes add vitamins and minerals to restore the nutritional value of a processed food.

**Preservatives** (pré-zerv-uh-tivz) are chemicals added to foods to keep them from spoiling. By law, additives and preservatives must be listed as ingredients on food labels.

You can use the information on food labels to compare different foods or to compare different brands of the same food. You can also use it to decide how much of a food you should eat at one time. It is important to read the label if you are on a special diet or are allergic to any foods.

Nutrition Facts and ingredients lists can help you choose foods that are good for you.

**SUMMARIZE** What kinds of information are shown on food labels?

- Lists vitamins and minerals in the food, including those in the food naturally and those that are added.
- Ingredients includes the main ingredients as well as any additives and preservatives.
Advertisements Influence Food Choices

Do you watch television, read magazines, or look at billboards along the highways? If so, you’ve probably seen ads for foods. Have you ever seen a food ad and then really wanted that food? If so, the ad did its job.

Many ads appeal to your emotions. They try to make you think that eating certain foods will make you feel good. An ad could show a group of children having fun while eating pizza. A movie star might tell you how good a hamburger tastes. Or a sports star might suggest that drinking a certain juice will make you more like him or her. Some food products have prizes inside the packages. People may buy the product just to get the prize. Advertisers use these “tricks” to get you to buy.

Some ads make claims about the healthfulness of a food. An ad might say the food is low in fat, high in fiber, or sugar-free. While it is against the law to lie in an advertisement, ads can still be misleading. For example, many foods labeled “low-fat” are still high in calories if they contain extra sugar in place of some of the fat. Food packages can also claim to offer health benefits that have not been proved.

If you prefer to eat foods without additives or preservatives, you might choose products labeled “all natural.” But be careful. Having no additives or preservatives doesn’t mean that a food is good for you. For example, some potato chips are labeled “100 percent natural.” But the potatoes are still fried in oil and contain a lot of fat and salt. It’s true that salt and oil are natural. But too much salt in your diet can increase your blood pressure, and too much fat can lead to heart disease.

Just remember that food ads and food packages are designed to make you want to buy the foods. If you look carefully at the Nutrition Facts labels, you can decide for yourself what foods are healthful if eaten in the proper amounts.

**MAIN IDEA AND DETAILS**

What is an ad designed to do, and how does it do it?

**Lesson 5 Summary and Review**

1. **Summarize with Vocabulary**
   Use vocabulary and other terms from this lesson to complete the statements.
   The ___ in a package of food are written on the ___ label. Sometimes, manufacturers put things in foods to improve how the foods look or taste. These things are called ___. To keep a food from spoiling, a food manufacturer might add one or more ___.

2. **On a Nutrition Facts label, what does the information under Percent Daily Value tell you?**

3. **Critical Thinking**
   Why might the label “100 percent natural” on a packaged food be misleading?

4. **COMPARE AND CONTRAST**
   Draw and complete this graphic organizer to show how the food labels of two cereals can be alike and different.

   ![Graphic Organizer]

   **Topic:**
   - Alike
   - Different

5. **Write to Inform—Description**
   Describe an ad that might persuade your classmates or friends to buy a particular food product.
Make Responsible Decisions

About Fast Food

Suppose you're at a fast-food restaurant for dinner. You got up too late to eat breakfast this morning. Then you had pizza and a cola for lunch. Now you want to order the supersized double cheeseburger special. Follow the steps for Making Responsible Decisions about eating a more healthful dinner.

1. Find out about the choices you could make.

You could order the special—double cheeseburger, fries, and large cola. Or, you could order a grilled chicken sandwich, a green salad, and a banana smoothie.

2. Eliminate any choices that will make you sick or are against your family rules.

You like cola, but you have already had one today. Fries are your favorite, but your parents allow you to have only one serving per week.

3. Imagine the possible results of each choice.

The cheeseburger and fries are high in fat and the cola contains sugar. The chicken has less fat, there are vegetables in the salad, and fruit in the smoothie.

4. Make the decision that is right for you.

You order the grilled chicken sandwich, salad, and smoothie.

Problem Solving

A. Joanna needs a lot of energy for track practice, but she isn't sure what she should eat at the coffee shop.
   - Use what you know about the steps for Making Responsible Decisions to help her choose healthful foods.

B. Jerry's mom prepares three healthful meals every day. She gives him fruits and raw vegetables for snacks. This afternoon Jerry wants to go to the Burger House with his friends.
   - What should Jerry order to show that he is trustworthy when eating away from home?
Food Preparation and Safety

Food Poisoning

You probably wouldn't think of eating uncooked chicken or eggs. They just don't taste good. But there are more important reasons for not eating uncooked foods. Eating certain uncooked or undercooked foods can cause food poisoning. Food poisoning is an illness caused by eating foods containing harmful germs.

Germs get into foods from soil, water, air, and people who haven't washed their hands. Germs also spread from one food to another. Suppose you use a knife to cut some uncooked chicken. Then you use the same knife to cut a sandwich. You could transfer germs from the chicken to the sandwich.

Food poisoning can cause stomach cramps, nausea, and diarrhea. Some forms of food poisoning are very dangerous and can even cause death.

**CAUSE AND EFFECT** How can someone working in a kitchen spread germs to the food?

Uncooked chicken should never be cut on the same board or with the same knife as other foods.

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Proper Storage Keeps Foods Safe

Germs are everywhere. You can't get rid of them all. The important thing is not to let germs multiply. When germs in food multiply, the food starts to look odd, smell unusual, and taste bad. It has spoiled. The way to keep foods from spoiling is to store them correctly.

Germs multiply rapidly at room temperature but more slowly at low temperature. That's why it's important to store cooked foods and all meats, milk, and eggs in a refrigerator. Covering foods like breads and cereals by wrapping them or putting them in containers can help keep them from spoiling. Although vegetables and fruits don't spoil quickly, storing them in a refrigerator keeps them fresh.

Different foods spoil at different rates. Even in a refrigerator, uncooked meat spoils in a few days. Milk will last for about a week, and cheeses and eggs last for several weeks. Juices, vegetables, and most fruits will last much longer. Freezing foods keeps them safe much longer. See also page 391.

**COMPARE AND CONTRAST** What foods spoil the fastest in the refrigerator? The slowest?

- Store cooked foods in plastic containers or wrapped in plastic.
- Keep meat, poultry, and fish in the coldest part of the refrigerator. Store them wrapped.
- Store eggs and milk in their original cartons. Throw away any cracked eggs. Don't keep eggs or milk on the refrigerator door.
- Store fruits and vegetables in a vegetable crisper or in unsealed plastic bags.
Prepare a Safe Meal

Think about everything you’ve touched today. Think about all the other hands that have touched those things. There are hundreds of places you could have picked up germs. To prevent food poisoning when you prepare food, remember these four rules:

- Clean, clean, clean!
- Separate—don’t contaminate!
- Refrigerate properly!
- Cook thoroughly!

Clean, clean, clean!

The first and most important thing to do before you prepare a meal is to wash your hands. Do this before you touch anything. Use warm water and plenty of soap, and scrub for twenty seconds. Make sure to clean under your fingernails and between your fingers. After you wash your hands, dry them with a clean towel. Make sure countertops are clean and dry.

Before preparing or eating fresh fruits or vegetables, wash them thoroughly. This will help get rid of germs as well as any chemicals that were used to kill insect pests. After eating, wash dishes and set them out to dry. If you use towels to dry dishes, always use clean ones.

Separate—don’t contaminate!

Raw meat, poultry, seafood, and eggs are the foods most likely to carry harmful germs. After you handle these foods, wash your cutting board and utensils thoroughly with hot water and soap. Never cut fruits or vegetables on a surface where you have had raw meat, poultry, seafood, or eggs.

Refrigerate properly!

Keep cold foods cold until you use them. If you are going to cook a food that is frozen, thaw the food in a refrigerator or in a microwave, not on a countertop. Never leave food that needs to be refrigerated sitting at room temperature for more than two hours.

Preparing foods carefully makes it less likely that they will have germs that make you or your family ill.
Cook thoroughly!

Cooking kills most harmful germs in food. But foods that are not cooked all the way through can still cause food poisoning. To be safe, cook eggs until the yolks are hard. Cook meat and poultry until they are no longer pink inside.

Finally, remember that your eyes, nose, and taste buds are there to protect you. If something looks odd, smells unusual, or tastes bad, throw it out. If you follow these guidelines, you will reduce the chances of getting or causing food poisoning. You can review more tips for kitchen safety in the Health and Safety Handbook, pp. 392–393.

COMPARE AND CONTRAST How do high and low temperatures fight food poisoning in different ways?

Lesson 6 Summary and Review

1. Summarize with Vocabulary
   Use vocabulary and other terms from this lesson to complete the statements.
   Pains in your stomach with cramps, _____ and _____ might be signs that you have _____.
   Refrigeration and freezing slow the growth of _____ that can make foods spoil, while sitting out at room temperature speeds up their growth.

2. Critical Thinking
   What is the worst thing that can happen to a person who gets food poisoning?

3. At what kind of temperature do germs multiply fastest?

4. COMPARE AND CONTRAST
   Complete this graphic organizer to show how high and low temperatures affect the growth of germs in ways that are alike and different.

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Alike</th>
<th>Different</th>
</tr>
</thead>
</table>

   Write to Inform—How-To
   Describe a method to prevent germs from spreading from a piece of uncooked chicken to a piece of cooked chicken.

ACTIVITIES

Physical Education

Carbo-Loading Athletes prepare in many ways for long-distance races called marathons. The winner will run for more than two hours without stopping. In addition to training, a marathon runner may do something before a race called carbo-loading. Find out what carbo-loading is, and write a paragraph explaining it.

Science

In the Body Use a sheet of poster board to make an outline of a body. Then cut out photos or drawings from magazines and newspapers of foods that represent the six nutrient groups. Paste these on the poster board, and write a short caption explaining the ways in which each nutrient helps the body.

Technology Project

Compare Nutrients Different foods contain different amounts of nutrients. Nutrients and their amounts are listed on the nutrition labels. Using a computer, make a table that compares the nutrients of three similar foods. If a computer is not available, make a poster.

For more activities, visit
The Learning Site.
www.harcourtschool.com/health

Career Link

School Dietitian School dietitians plan meals for school lunches. They prepare nutritious menus for schoolchildren, making sure students get a balance of the nutrients they need. Suppose you are the dietitian for your school. Prepare a series of menus for one week of school lunches. Be sure to use the information you have learned in this chapter as you prepare your menu.
Chapter Review and Test Preparation

Reading Skill

COMPARE AND CONTRAST
Draw and then use this graphic organizer to answer questions 1 and 2.

Topic: Alike

Different

1. Write at least two ways in which a piece of whole-wheat bread and a lump of sugar are alike.
2. Write at least two ways in which a piece of bread and a lump of sugar are different.

Check Understanding

Choose the letter of the correct answer.
9. An enzyme _____ (p. 73).
   A. holds energy needed by your body
   B. is a carbohydrate
   C. helps release energy from food
   D. causes food poisoning
10. Digestion begins in the ____ (p. 73).
    F. stomach
    H. small intestine
    G. esophagus
    J. mouth
11. If calcium is missing in a person's diet, the person might ____ (p. 76).
    A. have difficulty seeing at night
    B. have soft bones
    C. have swollen gums
    D. have digestion problems
12. The base of the USDA Food Guide Pyramid is made up of ____ (p. 78-79).
    F. fats, oils, and sweets
    G. fruits and vegetables
    H. bread, cereal, rice, and pasta
    J. meat, poultry, and fish
13. Which of these foods would your grandparents NOT have found in a supermarket in winter? (p. 90)
    A. apples
    B. fresh corn
    C. steak
    D. fish
14. If you were trying to add protein to your diet, which of these foods would be the best to eat? (p. 75)
    F
    G
    H
    J

Apply Skills

23. BUILDING GOOD CHARACTER

Respect You are invited to dinner at a friend's home. You and your friend have the chore of cleaning up after dinner. You notice that a plate of leftover meat is sitting on the countertop. Your friend suggests you play some games now and leave the meat where it is. How can you show good self-control in this situation?

24. LIFE SKILLS

Make Responsible Decisions You learn from some friends about a new diet. It's supposed to make you lose 10 pounds in a week. Do you decide to try it? Why or why not?

Think Critically

20. You slice a peach, a piece of chicken, and a tomato, in that order, with the same knife without washing it. Only the people who eat the chicken, the tomato, or both get food poisoning. Explain how this could happen.

25. Write to Inform—Explanation Explain why reading Nutrition Facts labels is important to your health.

Use Vocabulary

Match each term in Column B with its description in Column A.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. A nutrient such as calcium or iron</td>
<td>A. calorie</td>
</tr>
<tr>
<td>4. A measure of the energy in food</td>
<td>B. preservative</td>
</tr>
<tr>
<td>5. A condition resulting from extreme dieting</td>
<td>C. additive</td>
</tr>
<tr>
<td>6. Something added to a food to keep it from spoiling</td>
<td>D. mineral</td>
</tr>
<tr>
<td>7. Something put in food to make it more nutritious</td>
<td>E. fat</td>
</tr>
<tr>
<td>8. Nutrient at top of Food Guide Pyramid</td>
<td>F. anorexia</td>
</tr>
</tbody>
</table>

Nutrients

- water
- minerals
- vitamins

15. Which nutrient is missing from the graphic organizer? (pp. 74-77)
   A. fats
   B. proteins
   C. carbohydrates
   D. all of these

16. Which of the following will you NOT find on a Nutrition Facts label? (pp. 96-97)
   A. fat content
   B. carbohydrate content
   C. protein content
   D. water content

17. At which of the following temperatures will germs grow fastest? (p. 103)
   A. 5°F (freezer)
   B. 60°F (room)
   C. 40°F (refrigerator)
   D. 150°F (dishwasher)

18. Eat chicken only if it is cooked so thoroughly that the inside is no longer ____ (p. 106).
   A. red
   B. white
   C. pink
   D. orange

19. In a refrigerator, which of the following foods spoils fastest? (p. 103)
   A. uncooked meat
   B. hard cheese
   C. milk
   D. pasteurized juice

21. Your doctor says your bones are too soft. What question about your diet might your doctor ask? Why? What might he or she suggest you do to make your bones stronger?

22. You see a TV commercial advertising a breakfast cereal. Your favorite basketball player is shown in the background dunking the ball into the basket. How would this affect the way you think about the cereal? Would you be more tempted to buy it? Why or why not?