

## Section 1 Carbohydrates, Fats, and Proteins

## Key Ideas

- ✓ Carbohydrates, fats, and proteins can all be used by the body as sources of energy.
- ✓ When your body uses the nutrients in foods, a series of chemical reactions occurs inside your cells. As a result, energy is released.
- ✓ Carbohydrates supply energy for your body's functions.
- ✓ Fats supply your body with energy, form your cells, maintain body temperature, and protect your nerves.

- ✓ The most important function of proteins is their role in the growth and repair of your body's tissues.

## Vocabulary

- nutrient (192)
- metabolism (193)
- calorie (193)
- carbohydrate (194)
- fiber (195)
- fat (196)
- unsaturated fat (196)

- saturated fat (196)
- cholesterol (197)
- trans fat (197)
- protein (198)
- amino acid (198)



## Section 2 Vitamins, Minerals, and Water

## Key Ideas

- ✓ There are two classes of vitamins: fat-soluble vitamins, which dissolve in fatty materials, and water-soluble vitamins, which dissolve in water.
- ✓ You need seven minerals—calcium, sodium, potassium, magnesium, phosphorus, chlorine, and sulfur—in significant amounts.

- ✓ Nearly all of the body's chemical reactions, including those that produce energy and build new tissues, take place in a water solution.

## Vocabulary

- vitamin (203)
- antioxidant (205)
- mineral (205)

- anemia (206)
- homeostasis (208)
- electrolyte (208)
- dehydration (209)

## Section 3 Making Healthy Food Choices

## Key Ideas

- ✓ The *Dietary Guidelines* provide information on how to make smart food choices, balance food intake with physical activity, get the most nutrition out of the calories you consume, and handle food safely.
- ✓ Unlike past plans, the MyPyramid plans differ with a person's age, sex, and activity level. The pyramid also includes physical activity as an important part of staying healthy.

## Vocabulary

- *Dietary Guidelines for Americans* (210)
- nutrient-dense food (211)
- MyPyramid plan (213)



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**Food for Thought** Ask for volunteers to share their answers. Use examples from the video to review strategies for becoming a smarter consumer.

## Key Ideas Review

**L3** Have each student write a quiz show question about one of the Key Ideas in the chapter. Students should also supply the answer to the question. Collect the questions and answers, and use them for a class quiz game.

**L2** Have students write true or false questions based on the Key Ideas from the chapter. Students can exchange questions with a partner and answer them. For each statement that is false, students should rewrite it to make it true.

## Vocabulary Review

**EL** Have students use as many of the vocabulary terms as they can to make a concept map. Students should use the term *nutrients* to begin the map.

**L3** Divide the class into groups of four, and have students write each vocabulary term on a separate index card to make a deck of terms. Then have students in each group sit in a circle. One student starts by holding the entire deck of terms and saying phrases that the term on the top card relates to. As soon as the term is identified, the student takes the card and passes the deck to the next student. Play continues until all the cards have been used. The group that finishes first is the winner.



Students can go online to take a self test on Chapter 8.

## Reviewing Key Ideas

### Section 1

1. d
2. d
3. Glucose provides energy to cells.
4. Fiber helps prevent constipation and may reduce the risk of colon cancer.
5. by substituting low-fat foods for meat and dairy products
6. Amino acids are substances that are linked together to make proteins. The body cannot make essential amino acids; they must be part of the diet.
7. By combining plant protein sources, such as legumes and grains, people obtain all the essential amino acids.

### Section 2

8. a
9. b
10. Antioxidants help protect cells from damage caused by aging and certain types of cancer. Sources include citrus, strawberries, broccoli, tomatoes, potatoes, vegetable oils, whole grains, seeds, and nuts.
11. *Any one:* calcium—dark green, leafy vegetables; tofu; legumes; fluorine—fish, fluoridated water; phosphorus—meat, poultry, fish, legumes
12. *Any three:* Nearly all chemical reactions in the body take place in water. Water maintains homeostasis by regulating body temperature and electrolyte balance; is a primary component of tissue; carries wastes out of the body; helps digest food.
13. If a diet does not have enough iron, the body does not have enough hemoglobin to carry oxygen to tissues.
14. Diets high in fat and low in fiber can lead to heart disease and certain cancers in adulthood. Diets low in calcium can lead to osteoporosis.

### Section 3

15. c
16. Making smart food choices means choosing a wide variety of foods to obtain all the necessary nutrients.

## Reviewing Key Ideas

### Section 1

1. Complex carbohydrates are
  - a. composed of sugars linked together.
  - b. found in grain products.
  - c. good sources of energy.
  - d. all of the above.
2. Which of the following foods is high in protein?
  - a. an apple
  - b. lettuce
  - c. candy
  - d. chicken
3. What is the role of glucose in the body?
4. Why is fiber necessary for the proper functioning of the digestive system?
5. How can you limit your intake of fats and cholesterol?
6. What are amino acids? Why are some of them called “essential”?
7. **Critical Thinking** In many cultures, people get very little protein from animal sources. How might these people obtain the protein they need?

### Section 2

8. Which of these nutrients is sometimes associated with high blood pressure?
  - a. sodium
  - b. calcium
  - c. iron
  - d. carbohydrate
9. Loss of water through heavy perspiring can result in
  - a. homeostasis.
  - b. dehydration.
  - c. anemia.
  - d. metabolism.
10. Explain how antioxidants are important to your health. Which foods are good sources of antioxidants?
11. Which mineral can help build strong bones and teeth? Name one nondairy source of this mineral.
12. Give three reasons why water is such an important nutrient.
13. **Critical Thinking** If a person’s diet does not contain enough iron, his or her tissues may not get all the oxygen they need. Explain why this is so.
14. **Critical Thinking** How can your diet today affect your future health? Explain.

### Section 3

15. Which of the following is *not* used to determine the amounts you should consume from each food group in the MyPyramid plan?
  - a. age
  - b. sex
  - c. weight
  - d. activity level
16. The *Dietary Guidelines* recommend that you make smart food choices. Explain what this recommendation means.
17. Which band in the MyPyramid plan is the widest? Explain what this means.
18. **Critical Thinking** Several friends are planning a week-long backpacking trip in the mountains. They must carry all of their food in backpacks, so amounts must be limited. What kind of foods could they take to meet their nutritional needs?



## Building Health Skills

19. **Analyzing Influences** Many American teenagers have diets high in fats. Write a letter to the editor of your local newspaper explaining why. Suggest steps that can be taken to improve teen diets. **WRITING**
20. **Accessing Information** Laurie dislikes dairy products. Research and plan three meals that include calcium-rich foods.
21. **Setting Goals** Write down everything you eat for a week. Classify the foods into the groups in the MyPyramid plan. Then, come up with a plan to align your diet with the amounts recommended for your age, sex, and activity level. See how you do for the next week.

## Health and Community

**Food Pantry Visit** Volunteer at a local food pantry or soup kitchen for a day. You may be involved in preparing food, chatting with patrons, or cleaning up afterward. What did you find out that you didn’t know before? Write an editorial describing your experience. **WRITING**

17. The grain band is the widest. Grain products should make up most of one’s diet.
18. Foods suggested should be low in weight, but high in energy and nutrient density and cover all the food groups. Examples include whole-grain crackers, dried vegetables and fruits, powdered milk, nuts, legumes.



## Building Health Skills

19. Letters should explain that teens tend to eat a lot of fast foods, chips, and processed foods because they like the taste and convenience. Suggestions might include making more low-fat choices available at fast-food restaurants and in the school cafeteria; providing fresh fruit, nuts, and other healthy snacks in vending machines; and more nutrition education.