KEY CONCEPT Cells require many different nutrients.

Human beings need to eat six types of nutrients to maintain good health. If any one of these nutrients is missing for too long, the body’s cells stop working properly.

- **Water** — As a natural solvent, water is involved in nearly every chemical reaction in the cells. It helps digest food and eliminate wastes, maintains blood volume, regulates body temperature, and keeps the skin moist.

- **Carbohydrates** — Simple and complex carbohydrates are the main source of energy for the body. Dietary fiber from carbohydrates helps move food through the digestive system.

- **Proteins** — Proteins are used for growth and repair and for building enzymes and hormones vital to cell metabolism. The eight essential amino acids must come from animal products or a combination of plant foods.

- **Fats** — Saturated and unsaturated fats provide energy and key components in cell membranes, myelin sheaths for neurons, and certain hormones. Essential fatty acids must come from foods.

- **Minerals** — Minerals are inorganic materials the body uses to carry out processes in cells and to build or repair tissues.

- **Vitamins** — Fat-soluble and water-soluble vitamins work with enzymes to regulate cell functions, growth, and development. Water-soluble vitamins cannot be stored in the body and must be replaced by foods eaten.

Energy in food is measured in **Calories**. Most Calories should come from whole foods rather than from highly processed or high-sugar foods. Information on a food label about Calories, fats, protein, vitamins, and minerals can help people make good choices. A balanced diet and a balance between food consumed and physical activity are important throughout life.

1. List two reasons why you should eat a diet that contains all six nutrients.

   ___________________________________________________________
   ___________________________________________________________

2. How can you obtain all of the essential amino and fatty acids that your body needs?

   ___________________________________________________________
   ___________________________________________________________

3. Why should most of your Calories come from whole foods such as fruits, grains, and vegetables?

   ___________________________________________________________
   ___________________________________________________________
Section Quiz 32.1: Nutrients and Homeostasis

Write the letter of the best answer on the space provided.

1. How much water do you need to drink each day in order to replace fluids lost through urine, sweat, and respiration?
   a. about 2 cups
   b. about 8 cups
   c. about 16 cups
   d. about 24 cups

2. Which nutrient is your body’s main source of the raw materials used for growth and repair?
   a. animal fats
   b. proteins
   c. minerals
   d. vitamin $B_{12}$

3. Which of the following foods is a good source of carbohydrates?
   a. cheese
   b. potatoes
   c. chicken
   d. seeds

4. Good nutrition is especially important during the first two years of life and during the preteen years to
   a. help maintain normal childhood homeostasis.
   b. support accelerated growth and development.
   c. prevent excessive carbohydrate consumption.
   d. ensure you get enough green, leafy vegetables.

5. The food label on a package of cookies tells you that the amount of Calories per serving is 250, 150 of which are from fat. If you eat 2 servings (4 cookies), how many Calories will you be getting?
   a. 300
   b. 400
   c. 500
   d. 600