

Reading Hints

1. Remember specific facts. As you read, try to understand and remember one specific fact about each topic in the list of topics above.
2. Focus on key words in a sentence.

Words: 1,150

Suggested reading time 7:30 minutes

THE NUTRIENTS IN FOOD

1. Nutrients are the parts of food that are important for life and health. Nutrients are important for three reasons. First, some nutrients provide fuel for energy. Second, some nutrients build and repair body tissues. Third, some nutrients help control different processes of the body like the absorption of minerals and the clotting of blood. Scientists think there are 40 to 50 nutrients. These nutrients are divided into five general groups: carbohydrates, fats, proteins, minerals, and vitamins.
2. The first group of nutrients is carbohydrates. There are two kinds of carbohydrates: starches and sugars. Bread, potatoes, and rice are starches. They have many carbohydrates. Candy, soft drinks, jelly, and other foods with sugar also have carbohydrates. Carbohydrates are important because they provide the body with heat and energy. Sugar, for instance, is 100 percent energy. It has no other food value. Sugar does not build body tissues or control body processes. If there are too many carbohydrates in the body, they are stored as body fat. The body stores fuel as fat.
3. There are two types of fats: animal and vegetable. Butter, cream, and the fat in bacon are animal fats. Olive oil, corn oil, and peanut oil are vegetable fats. The body has fat under the skin and around some of the organs inside. The average adult has 10 to 11 kilograms (20 to 25 pounds) of body fat. If adults eat too many carbohydrates and fats, they can add another 45 kilograms (100 pounds) to their bodies. Fat is extra fuel. When the body needs energy, it changes the fat into carbohydrates. The carbohydrates are used as energy. Fat also keeps the body warm.
4. The third group of nutrients is proteins. The word "protein" comes from a Greek word that means "of first importance". Proteins are of "first importance" because they are necessary for life. Proteins are made of amino acids, which build and repair body tissues. They are an important part of all the muscles, organs, skin, and hair. The body has 22 different amino acids. Nutritionists call eight of these amino acids *essential* because the body does not manufacture them.
5. There are two kinds of proteins: complete proteins and incomplete proteins. Complete proteins which the body needs for growth, have all the essential

- amino acids. Meat, fish, poultry, eggs milk, and cheese contain complete proteins. The body needs complete proteins every day. Incomplete proteins do not have all the essential amino acids. The proteins in vegetables and grains, for instance, are incomplete proteins. Two ways to form complete proteins from incomplete proteins are: (1) to mix vegetables and grains correctly, or (2) to add a small amount of meat or milk to a large amount of grains. The body can then use the complete proteins which result from the mixture.
6. Extra protein in the body can be changed to fat and stored as body fat. It can also be changed to carbohydrates and used for energy. If people do not eat enough carbohydrates and fats for the energy that they need, their body uses proteins for energy. Then the body does not have the proteins that it needs to build and repair tissues. A nutritious diet includes carbohydrates and fats for energy, and proteins for growth.
 7. The fourth group of nutrients is minerals. There are more than twenty different minerals in the body. Three of the most important minerals are calcium, phosphorus, and iron. Calcium and phosphorus work together. The bones and the teeth contain 99 percent of the calcium in the body. If people have enough calcium and phosphorus, their bones and teeth will be strong and hard. In addition, their muscles, nerves, and heart will work correctly. Milk and hard cheeses are the best sources of calcium. After the age of 19, people need 400 to 500 milligrams of calcium a day. People who do not drink three glasses of milk daily can eat 50 hamburgers or 56 apples to get the calcium they need.
 8. Iron is the mineral that makes blood look red. All lean meats have iron; liver is an especially good source of iron. Whole grains, nuts, some vegetables, and dried fruits also have iron. If there is not enough iron in their diets, people will get a disease that is commonly called anemia. Anemia is found all over the world. People with anemia do not have enough iron in their blood. Because iron carries oxygen, people who do not have enough iron do not get enough oxygen for their normal activities. Their hearts beat faster so their bodies can get more oxygen. People who have anemia often get tired easily. Sometimes their skin looks white; it does not look pink and healthy.
 9. Nutritionists think there are thirteen vitamins that humans need. Vitamins are important because they prevent diseases and help control body processes. Vitamin A is important for healthy skin and eyes. People who do not have enough vitamin A may have night blindness. Some automobile accidents happen in the evening because people who lack vitamin A do not see the road well after they look at the bright headlights of a car. Vitamin A in the diet comes from deep yellow fruits and vegetables, dark green leafy vegetables, and whole milk.
 10. When people have enough B vitamins, their appetite is good and their nerves are calm. B vitamins in the diet come from some kinds of meat and vegetables, milk, cottage cheese, and whole grains. When a grain is processed, it loses vitamins. For example, there is a big difference between brown and white rice. When rice is processed the brown outside (husk) is lost. The brown outside of rice (husk) has an important B vitamin which white rice lacks. In short, brown rice has more B vitamins than processed rice.

11. Vitamin C keeps the cells of the body together. It helps skin tissue recover from cuts and burns. Vitamin C in the diet comes from tomatoes, citrus fruits like lemons and oranges, and some vegetables such as cabbage and green pepper.
12. Vitamin D is called the "sunshine" vitamin. When people sit outside, ultraviolet rays from the sun change a fat in their skin to vitamin D. Vitamin D is also found in cod liver oil and the eggs yolks. It is sometimes added to milk. Vitamin D helps the body absorb calcium. It helps build strong bones, and it prevents a disease in children that is called rickets. When children have this disease, their bones bend because they do not become hard. Rickets is seldom found in sunny, tropical countries. It is more common in countries that have long winters with little sunshine, in cities that have pollution that obscures the sun, or in towns surrounded by mountains that keep the sun out.
13. There is no one food that is essential but there are nutrients that are necessary for good health. If people want to be healthy and active they need to get all the essential nutrients. A healthy body needs carbohydrates, fats, proteins, minerals, and vitamins.

"Thousands upon thousands of persons have studied disease. Almost no one has studied health."

Adelle Davis, a popular American nutritionist

Exercise 3

Directions: "The Nutrients in Food" is a classification. The classification shows how nutrients are divided into different groups. Make a diagram of this classification in the space below.

Exercise 4

Directions: The reading discusses different nutrients. There is generally the same kind of information for each nutrient. Draw a chart on nutrients and fill it with the information you have read. Do not write sentences. Write only the information.

Exercise 5

Below are some new specific facts. First, decide which general topic the fact talks about. Then indicate which paragraph the new fact belongs with. If the fact does not belong in any paragraph, put a 0.

Example:

- 11 Because the body does not store extra vitamin C, it is important to get some vitamin C every day.

- a. Nuts and dried beans and peas are incomplete proteins.
- b. Bright light destroys vitamin A in the body:
As a result, people who work in bright light use more vitamin A than other people.
- c. Young people need 0.5 to 0.6 grams of calcium a day.
- d. In an average diet, carbohydrates give about 35 percent of the body's energy.
- e. Pure fats give more than twice as much energy as carbohydrates.
- f. There are hundreds of different kinds of proteins.
- g. People who live near the coast get iodine from the water they drink.
- h. If people do not have enough vitamin C, they can get a disease that is called scurvy.
- i. About one-half of a person's body weight is water.
- j. People who drink a lot of water, coffee, beer, or other liquids may lose a lot of the B vitamins in their bodies.

Exercise 6

Directions: Practice asking and answering questions about "The Nutrients in Food". Work with your colleague. Use your chart. Do not look at the reading.

Example

- Q: What are the best sources of carbohydrates?
A: The best sources of carbohydrates are bread, potatoes, grains, and sugar.
- Q:
A:
Q:
A:
Q:
A:

Exercise 7

Directions: Read each sentence. Find the paragraph in "Nutrients in Food" which explains the situation. Give specific advice.

Paragraphs

Ms. Crosby does not have beautiful hair. (Paragraph 4)

Ms. Crosby probably does not have beautiful hair because she does not get enough protein. If she wants to have beautiful hair, she should eat more meat, fish, cheese, eggs, or milk.

1. Mr. Stills is very thin.
2. Miss Nash does not have good posture. She does not stand straight because the muscles in her back are not very strong.
3. Mrs. Young does not have healthy teeth even though every day she eats foods which have calcium.
4. Mr. Simon is often tired and out of breath.
5. Mr. Garfinkel does not see very well when he is driving at night.
6. Ms. Mitchell is usually very nervous.
7. When Mrs. King cuts herself, her skin does not heal quickly.
8. Mr. Pride has weak bones.

Exercise 8

Directions: There are several definitions in "The Nutrients in Food". Underline and copy them.

ADDITIONAL READING SKILL

Remember: SCANNING is a reading cific information quickly. People scan

Exercise 1

Directions:

1. Read the questions.
2. Decide what kind of information to look for (name). Fill in the blank with the kind of information.
3. Then scan the paragraph to find the sentence to be certain you have the correct answer.
4. Write the answer.

A. What percentage of an egg is water?

74%

Water is essential for good health. It is necessary for every process of the body, such as digestion and the absorption of food. In addition, water helps control the temperature of the body. It keeps the temperature at 37°C (98.6° F). Water also cleans the tissues. Water is found in all foods. For instance, fresh vegetables are 90 percent water, eggs are 74 percent water, and a hamburger is 60 percent water.

B. When did scientists announce the formula of vitamin B₁₂?

1955

One type of anemia from a poor diet is pernicious anemia. In this disease, there are too few red blood cells in the body and these red blood cells are too large. Pernicious anemia is now controlled by vitamin B₁₂. In 1948 scientists in England and the United States discovered a red crystalline substance which they identified as vitamin B₁₂. In 1955 they announced the chemical formula of vitamin B₁₂. Except for protein, B₁₂ is the largest, most complex molecule scientists know about. When a person has pernicious anemia, the doctor can inject a fraction of a gram of B₁₂ into the muscle. B₁₂ restores the blood to normal. It makes the person comfortable because it eliminates the nervousness associated with pernicious anemia. It also helps the body use the amino acids it needs for growth.

C. Where was research on raw egg whites done?

University of Georgia

Nutritional studies have shown that a large amount of raw egg white in the diet is unhealthy. When the egg white is not cooked, one of its

pernicious

pernicious

anemia = a severe

form of anemia

(reduction of red blood cells, general weakness, gastrointestinal disturbances)

pernicious