



THE DIGESTIVE SYSTEM

STUDENT BOOK Ch. 6, pp. 160–166

Nutrients (types of food) and energy value of foods

1. Foods we eat are made up of different nutrients.

a) Associate each category of nutrient to its function in the organism.

| | | | |
|-------------------|------------------|-------------|-------------|
| Nutrients: | A. Proteins | C. Fats | E. Minerals |
| | B. Carbohydrates | D. Vitamins | F. Water |

| Function in the organism | | Example of foods |
|-----------------------------------|-------|------------------|
| 1. Provide most of the energy. | _____ | _____ |
| 2. Build tissue. | _____ | _____ |
| 3. Fight infection. | _____ | _____ |
| 4. Transport food and waste. | _____ | _____ |
| 5. Transport oxygen in the blood. | _____ | _____ |
| 6. Make up cell membranes. | _____ | _____ |

b) In the right column of exercise a), add an example of foods from the category that are a significant source of nutrients.

2. True or false?

- a) The average energy value is the same for all nutrients. _____
- b) The human body consumes energy even at rest. _____
- c) Adults and adolescents have the same energy needs. _____
- d) A diet regimen of 9 000 kJ is suitable for an adolescent. _____
- e) Proteins are also known as *protidaemia*. _____
- f) One g of carbohydrates supplies more energy than 1 g of proteins. _____
- g) Vitamins and minerals provide no energy to the body. _____
- h) Labels on nutritional value give information about the nutrients in foods. _____



Nutrients (types of food) and energy value of foods *(continued)*

3. The following foods are part of a restaurant's daily special. Refer to the table "The nutritional value of certain foods" in Appendix 2 of the textbook to answer the questions below.

- | | | |
|-------------------------------|-------|----|
| A. Grilled trout filet | _____ | kJ |
| B. Serving of couscous | _____ | kJ |
| C. Serving of green beans | _____ | kJ |
| D. Glass of 2% milk | _____ | kJ |
| E. Medium apple | _____ | kJ |
| F. Two chocolate-chip cookies | _____ | kJ |
| G. Black tea | _____ | kJ |

- a) Indicate the energy value of each food item and place the foods in ascending order according to energy value.

_____ < _____ < _____ < _____ < _____ < _____ < _____

- b) Indicate the energy value of each food item and place the foods in ascending order according to energy value.

| Minerals/Vitamins/ Nutrients | Menu item containing highest quantity | Quantity |
|---------------------------------|--|----------|
| Minerals | | |
| Iron | _____ | _____ mg |
| Calcium | _____ | _____ mg |
| Vitamins | | |
| Vitamin B9 | _____ | _____ µg |
| Vitamin C | _____ | _____ mg |
| Nutrients | | |
| Carbohydrates | _____ | _____ g |
| Proteins | _____ | _____ g |

THE DIGESTIVE SYSTEM (*continued*)

STUDENT BOOK Ch. 6, pp. 167–172

Digestive tube, digestive glands, transformation of food

1. The following terms are the names of different digestive tract structures and digestive glands.

| | | | |
|-----------------|-------------------|----------------|-----------------|
| Stomach | Pharynx | Mouth | Pancreas |
| Large intestine | Esophagus | Rectum | Liver |
| Salivary glands | Intestinal glands | Gastric glands | Small intestine |

Use these terms to:

- Place the structures of the digestive tract in the order they receive food during digestion.
- Name the digestive gland next to the part of the digestive system for which it provides secretions.

| Part of digestive tract | Digestive gland |
|-------------------------|-----------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

2. During digestion, food can undergo two types of transformations. Identify which of the following types of transformation occurs for each activity below.

A. Mechanical transformation

B. Chemical transformation

| Activity | Type of transformation |
|---|------------------------|
| a) Action of saliva in the mouth | _____ |
| b) Churning of food in the stomach | _____ |
| c) Breakdown of proteins by intestinal juices | _____ |
| d) Chewing of foods in the mouth | _____ |
| e) Breakdown of proteins by pancreatic juices | _____ |