

# Activity 1

## Vitamins and Minerals

### Vitamin Functions

**Purpose:** To explain the functions and sources of vitamins.

**Directions:** Read each sentence below. Then complete each sentence by writing the appropriate word or words in the space provided to the left of each number.

#### Water-Soluble Vitamins

- \_\_\_\_\_ 1. \_\_\_\_\_ or \_\_\_\_\_ is plentiful in citrus fruits and helps maintain healthy \_\_\_\_\_, bones, skin, and \_\_\_\_\_. A lack of this vitamin can cause poor \_\_\_\_\_, weakness, \_\_\_\_\_, and soreness in \_\_\_\_\_.  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_ 2. \_\_\_\_\_ or \_\_\_\_\_ deficiency causes stiffness and the disease beriberi. Nausea, apathy, and loss of \_\_\_\_\_ are signs of deficiency. This vitamin is needed for muscle development and is found in whole-grain and \_\_\_\_\_ breads and cereals.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_ 3. \_\_\_\_\_ or \_\_\_\_\_ contributes to body \_\_\_\_\_ and \_\_\_\_\_ production. Deficiency, though rare, is indicated by \_\_\_\_\_ sensitivity, gritty \_\_\_\_\_, sore tongue, and mouth and lip \_\_\_\_\_. This vitamin is most commonly received through milk and milk products.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- \_\_\_\_\_ 4. \_\_\_\_\_ or \_\_\_\_\_ helps make nonessential amino acids, which are used  
\_\_\_\_\_ to build body cells. Deficiency is rare, but it includes \_\_\_\_\_, confusion,  
\_\_\_\_\_ irritability, and \_\_\_\_\_.
- \_\_\_\_\_ 5. \_\_\_\_\_ or \_\_\_\_\_ is needed to have a healthy \_\_\_\_\_ system and \_\_\_\_\_  
\_\_\_\_\_ membranes. \_\_\_\_\_ is a disease that results in skin \_\_\_\_\_, mental and \_\_\_\_\_  
\_\_\_\_\_ problems that are caused by a lack of this vitamin. Deficiencies are rare  
\_\_\_\_\_ when people eat enough \_\_\_\_\_.
- \_\_\_\_\_ 6. \_\_\_\_\_ is not found in plant foods. It is necessary to maintain healthy \_\_\_\_\_  
\_\_\_\_\_ cells and to make genetic material. \_\_\_\_\_, weakness, nausea, sore mouth or  
\_\_\_\_\_ tongue, loss of \_\_\_\_\_, and numbness in limbs, hands, and feet characterize  
\_\_\_\_\_ a deficiency.
- \_\_\_\_\_ 7. \_\_\_\_\_ or \_\_\_\_\_ is especially important in women before and during \_\_\_\_\_  
\_\_\_\_\_ and \_\_\_\_\_. This vitamin helps the body use \_\_\_\_\_ and may come from  
\_\_\_\_\_ leafy green vegetables. Without it a person can develop \_\_\_\_\_, which makes  
\_\_\_\_\_ a person feel tired and \_\_\_\_\_.
- \_\_\_\_\_ 8. \_\_\_\_\_ or \_\_\_\_\_ promotes \_\_\_\_\_ growth and development. \_\_\_\_\_ are rare  
\_\_\_\_\_ because it is found in most foods.

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**Fat-Soluble Vitamins**

- \_\_\_\_\_ 9. There are three forms of \_\_\_?\_\_\_: retinol, retinal, and retinoic acid.
- \_\_\_\_\_ 10. They promote good \_\_\_?\_\_\_ and help maintain tissues and \_\_\_?\_\_\_. Deficiency can cause rough, scaly skin and infections in the respiratory tract and other areas of the body. Additional symptoms include night \_\_\_?\_\_\_ and total blindness in many \_\_\_?\_\_\_. These substances are high in foods like \_\_\_?\_\_\_ and broccoli.
- \_\_\_\_\_ 11. \_\_\_?\_\_\_ keeps you from bleeding endlessly from small cuts and also assists proteins. Deficiency and toxicity are \_\_\_?\_\_\_ with a healthful diet.
- \_\_\_\_\_ 12. Some \_\_\_?\_\_\_ is made by the body through the action of sunlight on the skin. It is also found in fortified \_\_\_?\_\_\_ products, egg yolks, and fatty fish.
- \_\_\_\_\_ 13. \_\_\_?\_\_\_ protects cells from \_\_\_?\_\_\_ damage. Deficiency is rare, although processing, storage, and \_\_\_?\_\_\_ may affect a food's content.

# Activity 2

## Vitamins and Minerals

### Magnificent Minerals

**Purpose:** To explain the functions of minerals.

**Directions:** Minerals are vital micronutrients. Use your text to answer the following investigation queries about minerals. Write your answers in the space provided.

1. How are minerals classified?

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2. Most minerals become a part of what?

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3. What mineral is responsible for blood clotting, nerve activity, and muscle contraction? This mineral is essential for strong bones, and deficiency throughout your life may cause \_\_\_?\_\_\_.

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4. Consuming excess caffeine, found in coffee, tea, and some soft drinks, won't help you build what?

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5. What major minerals are known as electrolyte minerals, which prevent cell damage?

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6. In order to make hemoglobin, the substance in red blood cells that prevents anemia, what mineral do you need to consume?

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7. What mineral works with calcium to help build strong teeth and bones?

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8. Without enough of this mineral a person can develop a lump at the front of his or her neck. Infants can be born with mental retardation due to the lack of this mineral.

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9. When is the most critical time to prevent osteoporosis?

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10. In order to maintain the structure of muscles, red blood cells, hair, and nails, what mineral do you need?

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11. In order to help the immune system function, help heal wounds, and promote normal growth in children, what mineral should be consumed?

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12. In many communities what mineral is added to the water to prevent tooth decay and strengthen bones?

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13. Based on your reading, which of the minerals are essential?

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**Activity 3****Vitamins and Minerals****Minerals—What’s Missing?**

**Purpose:** Describe conditions that can result from certain mineral deficiencies.

**Directions:** Match the mineral-deficiency symptom in the left column with the correct mineral listed in the right column. Write the letter of the correct response in the space provided to the left of each number. Keep in mind that not all of the minerals listed at the right will be used.

**Symptoms**

- |       |   |                         |
|-------|---|-------------------------|
| _____ | 1. Lack of this mineral may cause anemia and pica (the appetite for ice, clay, or other non-food items).            | A. Zinc                 |
| _____ | 2. Lack of this mineral can cause tooth decay and weak bones.   | B. Electrolyte minerals |
| _____ | 3. Goiter or mental retardation in infants is caused by lack of this mineral.                                       | C. Iodine               |
| _____ | 4. Growth retardation, poor appetite, loss of taste, dry skin, and depression are symptoms of lack of this mineral. | D. Magnesium            |
| _____ | 5. Lack of this mineral can cause osteoporosis.   | E. Fluoride             |
| _____ | 6. A deficiency of these minerals is often caused by illness such as diarrhea or vomiting.                          | F. Calcium              |
|       |   | G. Iron                 |
|       |   | H. Selenium             |

All other mineral deficiencies are rare, unknown, or uncommon.