Name _____ Date _____ Class _____

Vitamins and Minerals for Good Health

Directions: Read the following selection. Then answer the questions under *Thinking Critically,* and complete the activities as directed by your teacher.

Vitamins and minerals are essential for good health. If you take in too much or too little of certain nutrients, however, health problems can occur.

Research shows that if you eat a balanced variety of healthful foods, you probably do not need to worry about vitamin and mineral deficiencies. Deficiencies are a concern mainly for people who eat very little, who limit the variety of foods they eat, whose bodies cannot absorb nutrients properly, and who have certain physical conditions that promote a deficiency.

Receiving a dangerous excess of any vitamin or mineral is difficult from foods alone. (Sodium and chloride are possible exceptions.) Those who take mega doses of supplements, however, do put themselves at risk unless a physician has prescribed the supplement.

The following chart is an example that shows some of the effects of receiving too much or too little of a vitamin or mineral.

Fat-Soluble Vitamins	Effects of Getting Too Little	Effects of Getting Too Much
Vitamin A	◆ Night blindness; eye disorders ◆ Rough, cracked skin; weakened immunity	Beta carotene (converts to vitamin A): ◆ Yellow skin Vitamin A: ◆ Headache; vomiting; double vision; hair loss; scaly skin; liver damage
Vitamin D	◆ Rickets (deformed bones) in children ◆ Frequent bone fractures in adults	◆ Calcium deposits in kidneys and blood vessels, especially in young children
Trace Minerals	**Effects of Getting Too Little**	**Effects of Getting Too Much**
Iron	◆ Anemia: tiredness, weakness, paleness, loss of appetite	◆ Can interfere with absorption of other trace minerals ◆ Possible damage to liver, heart, or immune system
Iodine	◆ Enlarged thyroid gland; slow mental reaction	◆ Thyroid problems ◆ Iodine poisoning
Macro minerals	**Effects of Getting Too Little**	**Effects of Getting Too Much**
Calcium	◆ Loss of bone mass; osteoporosis; back and leg cramps; arm and leg muscle spasms	◆ May interfere with absorption of other minerals, such as iron and zinc
Phosphorus	◆ Rickets in infants; bone loss; weakness; loss of appetite	◆ Reduced level of calcium in bloodstream
Electrolytes	**Effect of Getting Too Little**	**Effects of Getting Too Much**
Sodium	◆ Difficult to get too little	◆ Linked to high blood pressure in some people
Potassium	◆ Weakness; loss of appetite; nausea	◆ Toxic in high doses

(Continued on next page)

Thinking Critically

1. Can vitamin or mineral supplements replace a balanced nutritious diet? Why or why not?

_____

_____

_____

2. How can iron deficiency (anemia) be a problem in the United States? Explain your answer.

_____

_____

_____

3. Identify a vitamin or mineral that you make an effort to include in your diet each day. Why are you so conscientious about this? How do you make certain you receive your minimum daily requirement?

_____

_____

_____

4. Many health risks can be prevented. Should supplements be used in developing countries for preventable deficiencies? Explain your answer.

_____

_____

_____

For Further Study

- Choose one vitamin or mineral from the chart and learn more about the effects of a deficiency or a mega dose of this vitamin in the body. Prepare an 8–10 slide PowerPoint® presentation of your information. Include an introduction and conclusion slide; a minimum of two slides with images, and one slide with sound; use a background or design template on each slide. Share your presentation with the class.
- Research the prevention of osteoporosis or the medical effects of high levels of potassium. Keyboard your report. Note your references as directed by your teacher and submit your research.
- Investigate the discovery of vitamin A or vitamin C. Then write a children's story about this discovery. Include all elements of good story writing, and include original drawings, sketches, or graphics. Work with your teacher to arrange a time to present your story to an elementary class.
- Investigate the truth about one of the following nutrition myths:
  - Eating carrots improves your vision.
  - Taking calcium supplements prevents osteoporosis.
  - Fresh vegetables are more nutritious than frozen or canned vegetables.
  - An apple a day keeps the doctor away.
  - Orange juice will cure a cold.

  Then conduct a survey about the myths. Survey at least ten adults and an equal number of teens. Ask whether each myth is true or false. What do the results show? Lead a discussion on the similarities/differences in your data. How do you think food myths get started?