Chapter 8: Study Guide

- Scurvy
- Vitamin
- Fat-soluble vitamins
- Water-soluble vitamins
- Oxidizing agent or Oxidant
- Radical
- Antioxidant
- Biological activity
- Enrichment
- Fortification
- Retinol (preformed vitamin A)
- Carotenoids
- Epithelial Cells
- Rhodopsin-Vitamin A
- Beta-Carotene
- Rickets
- Osteomalacia
- Alpha-tocopherol

- Hemolysis
- Anemia
- Beriberi
- Wernicke-Korsakoff syndrome
- Pellagra
- Homocysteine
- Hemoglobin
- Folic acid and folacin
- Tetrahydrofolic (THFA)
- Neural tube
- Spina bifida
- Anencephaly
- Intrinsic factor (IF)
- Pernicious anemia
- Ascorbic acid
- Collagen
- Prooxidant

Concept Questions:

1. List at least three criteria used to designate a substance as a vitamin.
2. List three factors that distinguish vitamins from macronutrients.
3. Define the following terms: provitamin, antioxidant, and radical.
4. Explain the difference between enrichment and fortification.
5. Discuss at least five ways to preserve the vitamin content of fruits and vegetables during food preparation and storage.
6. Prepare a table for fat-soluble vitamins. For each vitamin, indicate its major function in the body, major food sources, deficiency disorder (if it has a specific name), and major signs and symptoms of the deficiency disorder. If the vitamin is known to be toxic, also indicate major toxicity signs and symptoms. Check your table against the information provided in Table 8.2.
7. Prepare a table for water-soluble vitamins and choline. For each of these micronutrients, indicate its major function in the body, major food sources, deficiency disorder (if it has a specific name), and major signs and symptoms of the deficiency disorder. If the micronutrient is known to be toxic, also indicate major toxicity signs and symptoms. Check your table against the information provided in Table 8.7.
8. Explain why people should be careful about taking megadoses of vitamin supplements.
9. List three side effects from taking megadoses of nicotinic acid.
10. Explain why people should avoid taking high doses of vitamin B-6.
11. A friend of yours takes 1000 mg of vitamin C daily, because she thinks the vitamin prevents colds, heart attacks, and Alzheimer’s disease. After reading section 8.4, what would you tell your friend about her vitamin C use?

12. Dorothy is 85 years of age. She has excellent vision, but she takes megadoses of vitamins C and E, because she thinks these vitamins prevent macular degeneration. Based on the information in section 8.4, what would you tell Dorothy about her vitamin C and Vitamin E use?