

Chapter 8 Reading Guide and Supplemental Lectures

Reading Guide Questions:

1. Do vitamins and minerals have kcalories?
2. List the B-vitamins. Are they water-soluble or fat-soluble? Which is the only one to be stored in significant amounts in the body? What happens to excess B-vitamins?
3. Which B-vitamins have a primary role in energy metabolism? In cell regeneration/synthesis?
4. Explain the relationship between an enzyme and its coenzymes.
5. List the other nutrients involved in metabolism that the text mentions. What kinds of nutrients are they (ie, what category, such as carbs etc)?
6. Review the roles of FAD, NAD and coA. Which vitamins are part of these substances?
7. Which B-vitamin is a coenzyme to enzymes that perform transamination reactions? (What is transamination, again?)
8. What 3 B-vitamins are important for keeping blood homocysteine levels in check? Why is this important?
9. Why isn't choline a vitamin?
10. Which of the nutrients of this chapter are least likely to be deficient?
11. Describe the diet applied by Dutch researchers, which produced poor B-vitamin status in just 11 weeks.
12. For each of the B-vitamins, minerals of this chapter, and choline:
 - a. Name the coenzyme they are part of
 - b. List the general functions of the above coenzyme
 - c. Name and describe symptoms of deficiency diseases
 - d. Describe toxicity symptoms, if they are known
 - e. List several good food sources
 - f. When appropriate (ie, when the book does so), talk about commonness of deficiency in the US today; for example, thiamin deficiencies are very rare in the general population, but more common in alcoholics.
13. Why are B-vitamins needed in order for cells to have energy, even though vitamins don't actually provide and energy directly?
14. Are B-vitamin toxicities from food alone likely?
15. Note: be sure to read "Nutrition Debate: B6 for PMS."
16. Note: table 8.1 summarizes some deficiency and toxicity symptoms for nutrients. Some of the symptoms are listed as clinical terms (ex, neuropathy, edema, etc). Be sure to look these terms up to find out what they mean.

No supplemental lecture; please let me know if you see areas that could use clarification or expansion.