

Study Questions, Chapter 7

1. Read the first few paragraphs of chapter 7 as well as the section called “Definition and Classification of Vitamins”. This section states that some vitamins can be made from precursors. According to the Glossary (Appendix GL at the back of the textbook), what is another word for precursors? (It also begins with "p".)
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For the next questions, read the section called “**The Fat-Soluble Vitamins**”.

2. Which 2 vitamins that can reach toxic levels especially easily when taken in supplements.
3. Which 2 fat-soluble vitamins does this section say can act somewhat like hormones?
 - a. Vitamin A
 - b. Vitamin K
 - c. Vitamin E
 - d. Vitamin D
4. When vitamin A is lacking in the diet, night blindness can result. What part of the eye helps you with light perception? _____
 (Note: Keep in mind that night blindness is common even in people who eat plenty of foods with beta-carotene or vitamin A. In those cases, it's not caused by a nutritional deficiency.)
5. A deficiency of vitamin A that has progressed well beyond night blindness can cause blindness because what protein builds up in the cornea of the eye? _____
6. How many of the world's vitamin A-deprived children become blind each year?
 - a. 100,000
 - b. a half million
 - c. 3 million

NOTE: The text gives a rather simplistic picture of vitamin A deficiency around the world when it says "Better still, a child fed fruits and vegetables regularly is virtually assured protection".

In most poor countries, few children are immunized and the public water isn't sanitary. So intestinal infections are common and the resulting diarrhea means that even when they eat foods with beta- carotene or vitamin A, it might not be well absorbed. Also, without immunizations, they develop diseases like measles which can deplete vitamin A stores in the body.
7. Look at the FIGURE in this section called “**Vitamin A Deficiency & Toxicity**”. What health consequence can happen when vitamins are DEFICIENT and also when they are TOXIC? _____

8. Read about “Food Sources of Vitamin A”. What kind of foods contain active vitamin A?
 - a. foods that come from plants
 - b. foods that come from animals
9. Now look at the **SNAPSHOT** called “Vitamin A and Beta Carotene”. Which one of the foods on that **SNAPSHOT** has active vitamin A?
 - a. milk
 - b. carrots

Continue with what the text says about fat-soluble vitamins.

10. Read the paragraph that begins “**Beta-Carotene**” (11th edition says “**Beta-Carotene AND Carotenoids**”). It’s just above where it says “Does Eating Carrots Really Promote Good Vision?”
Andrea drinks a quart of carrot juice each day. Is she likely to suffer symptoms of vitamin A toxicity?
11. Read the section with the heading “**Vitamin D**”. Vitamin D is the most potentially toxic of all vitamins. This is because excess vitamin D causes calcium to build up in the heart, blood vessels, lungs and what other organ that is made of *soft* tissue?
12. Read the section with the heading “**Vitamin E**”. The margin lists “**Key antioxidant vitamins**”. What does it list as “A Key antioxidant *mineral*?”

13. The paragraph that begins “Vitamin E Deficiency” says that low levels of vitamin E are most likely when diets extremely low in _____ are consumed for years.
14. Read the section with the heading “**Vitamin K**”. Use (long-term) of what kind of medications can cause vitamin K deficiency because of a lack of production by intestinal bacteria? (The answer is NOT warfarin, which can *interfere* with vit. K.)

For the next questions, read the section called “**The Water-Soluble Vitamins**”.

15. According the introductory paragraphs of this section, the most likely hazard to taking supplements of water-soluble vitamins is to the _____ (fill in the blank)
16. Select the TRUE statement according to the **THINK FITNESS** section with the heading “**Vitamins for Athletes**”:
 - a. According to the text, even when competitive athletes choose diets with reasonable care, they usually need nutritional supplements.
 - b. According to the text, competitive athletes who choose diets with reasonable care usually do NOT need nutritional supplements.

17. Look at the **CONSUMER CORNER: Vitamin C and the Common Cold**. This says that one review of the literature showed daily dose of 1 gram of vitamin C (1000 mg) had a difference in cold duration of less than:
- one day
 - two days
 - three days
18. The enzymes involved in the formation and maintenance of a particular connective tissue protein depend on vitamin C. This tissue protein is important to bones and capillaries. What is the name of this protein?
19. For many years, a popular weight-loss diet has been one called "The Apple Cider Vinegar Diet". The diet maintains that vinegar has vitamin C as well as "fat-burning enzymes". The truth is, it does not have those enzymes. According Appendix A at the back of your text, how many milligrams (mg) of vitamin C does 1/2 cup of cider vinegar have?
20. The research regarding neural tube benefits has found positive results using the synthetic form of folate, so the synthetic form is what is added to foods. According to the text and the Glossary at the back of the book, what is the name of the form of folate that is added to foods?
21. Folate has the ability to mask deficiencies of what other B-complex vitamin?
22. CAREFULLY read the section called "**Non-B Vitamins**". According to this, is it accurate to call bioflavonoids a vitamin?
23. **List** the vitamin that is deficient for each of these conditions. You will use this information to answer a Study Question. (If you have trouble finding any of these, look them up in the **Index** at the back of the book.

	10 th edition page #	11 th ed. page #	VITAMIN that is DEFICIENT
a. Night blindness	216	223	
b. keratinization	216	223	
c. xerosis	216	223	
d. blindness (xerophthalmia)	216	223	
e. macular degeneration	220	227	
f. rickets	221	228	
g. osteomalacia	222	229	
h. erythrocyte hemolysis	225	232	
i. scurvy	229	236	
j. beriberi	235	242	
k. Wernicke-Korsakoff Syndrome	235	242	
l. Pellagra	236	244	
m. neural tube defects in newborns	238	246	

n. pernicious anemia	241	248	
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24. According to page C at the beginning of the book (*Tolerable Upper Intakes Levels for Vitamins*), how many micrograms (ug) of vitamin A is a "Tolerable Upper Intake Level" per day for an adult?
25. After being given a prescription for the antidepressant, Zoloft, 20-year-old Anne was given a handout. It said "Vitamin B6 helps your body make neurotransmitters. Take 50 milligrams with food twice a day. Fruits, vegetables, and whole foods provide lots of anti-stress vitamins." According to page C at the beginning of the book (*Tolerable Upper Intakes Levels for Vitamins*), select the TRUE statement about this amount of vitamin B6 from the supplements.
- This amount is above the "Tolerable Upper Intake Level" per day for an adult, according to that table.
 - This amount is the same as the "Tolerable Upper Intake Level" per day for an adult, according to that table.
 - This amount is below the "Tolerable Upper Intake Level" per day for an adult, according to that table.
26. When considering a nutritional supplement, a first step is to compare the dose of the supplement to the RDA. Look at page B at the front of the book. What is the RDA for Vitamin E in mg for adults (non-pregnant)? _____
27. Look at the document in moodle called "**The Effect of Food Preparation on Nutrient Retention**". According to the chart, which would have more antioxidants?
- A tomato allowed to ripen on the vine
 - A tomato picked green so it transports better
 - Both would have equal amounts of antioxidants.
28. This chart also says that "Produce is processed (frozen or canned) usually within _____ of being harvested, so it has more vitamins than fresh produce that was harvested a week ago or more." **Hint:** See the column "What You can Do" in the "Time After Harvesting" row.

The following questions are from Lecture 7A.

29. Look at the examples of vitamins and minerals listed in **Lecture 7A**. Then identify each word below as being either a fat-soluble vitamin, a water-soluble vitamin, or a mineral.

a. pantothenic acid _____	i. vitamin B12 _____
b. vitamin E _____	j. fluoride _____
c. calcium _____	k. vitamin A _____
d. vitamin K _____	l. niacin _____
e. thiamin _____	m. vitamin D _____
	n. riboflavin _____

f. potassium _____ g. biotin _____ h. folate _____	o. vitamin B6 _____
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30. Look at **Lecture 7A**: “Nutrients Involved in **ENERGY METABOLISM**”. Which vitamin or mineral is not on the list there?

a. Thiamin	d. Vitamin C	g. All of these are on the list
b. Riboflavin	e. Vitamin A	h. None of these are on the list
c. Niacin	f. Chromium	

31. Look at **Lecture 7A**: “Nutrients Involved in **BLOOD HEALTH**”. It says that too much of either iron or zinc from supplements can decrease the body's absorption of what other mineral? _____

32. Look at **Lecture 7A**: “Nutrients Involved in **BLOOD HEALTH**”. It says that most animals (not humans) make their own vitamin C from _____.

The following questions are from lecture 7B.

33. Continue with “**Lecture 7B: Local Food**”. The organic spinach pictured near the beginning is a "Product of" where?

- a. the eastern part of the United States
- b. the western part of the United States
- c. New Zealand
- d. Australia
- e. China
- f. Japan

34. Continuing with “**Lecture 7B: Local Food**”, it says that the Farmers' Market in Eugene can trace its beginnings back to the first public market in this part of Oregon, the Eugene Producers Market, which began in 1915. It goes on to say that it was located:

- a. in the same location it is today.
- b. on the southeast corner of Charnelton and Broadway.
- c. at the intersection of Broadway and Willamette.

35. According to “**Lecture 7B: Local Food**”, when do members of CSAs (Community Supported Agriculture) pay for the food they receive?

- a. each week when they pick it up.
- b. usually before the start of the growing season.

36. According to “**Lecture 7B: Local Food**”, the third community garden project of FOOD for Lane County (besides the Youth Farm and the GrassRoots Garden) is the Churchill Community Garden. What is the other name of "The Family Garden" located there through a partnership with a local nonprofit?
- Huerto de la Familia
 - Le Jardin de la Famille
37. After looking at “**Lecture 7B: Local Food**”, what is one thing you learned OR what is one thing you already knew?
38. **MYSTERY QUESTION**. For this one, have your Chapter 6 LECTURE OUTLINE in front of you. You will be asked 1 or more questions about something from one of the blanks or questions that were answered in **Lecture 6A**.
39. Take a look at the FORUM for Week **6** (last week). Do you find one posting done by you? _____