

STUDY QUESTIONS Chapter 8

Read the introduction to Chapter 8 as well as the section with the heading “**Water**” (about 4 pages).

1. According to this section, water makes up what percent of the body's weight? _____
2. According to this section which of the following part of the body helps give you messages to drink when your body needs water?
 - a) cerebellum
 - b) hypothalamus
 - c) pancreas
3. Fill in the blank: According to this section, "A water deficiency that develops _____ can switch on drinking behavior in time to prevent serious dehydration.
4. Read “Quenching Thirst and Balancing Losses”. According to this section, which ONE symptom of dehydration might many elderly persons fail to perceive when they are mildly dehydrated?
 - a) rough, dry skin
 - b) lack of energy
 - c) thirst
 - d) decreased mental function
 - e) sudden weight loss
 - f) impaired kidney function

In 1906, water was supplied to Eugene residents by private businesses. A well that one company drew from was situated near a sewer, and when typhoid germs spread from the sewer to the city's water supply, a terrible epidemic broke out. At a mass meeting, the public asked the mayor to resign because he had not done all in his power to stop the epidemic and promote public ownership of the water supply. In 1909, the water supply became publicly owned and EWEB (Eugene Water & Electric Board) was born. Now all of Eugene's water comes from the McKenzie River, which begins high in the Cascade Mtns. and travels down through McKenzie Bridge, and around the northern part of Springfield until it flows into the Willamette River near Coburg. Much of Springfield's water is supplied by SUB, the Springfield Utility Board, and comes from wells.

5. Public water in Eugene (EWEB) and Springfield (SUB) is just barely soft. What 4-letter mineral can soft water leach from pipes in old buildings? _____

Read the next section of Chapter 8 with the heading “**Safety and Sources of Drinking Water**”, including the **CONSUMER CORNER** called “Bottled Water”. (about 4 pages)

6. Fill in the blank: In areas of the world without chlorination of public water, it is estimated that 25,000 people die each _____ from diseases caused by organisms carried by water and easily killed by chlorine.
7. Read about some of the natural ways surface water cleanses itself and how ground water can cleanse itself. What are the natural ways mentioned that the McKenzie River's water can remove some of its own contaminants? (Select all that apply.)
 - a) aeration
 - b) exposure to the sun
 - c) filtered by plants and microorganisms

8. Which has the MORE strict federal standards for purity and sanitation?
- tap water
 - bottled water

Read the section with the heading “**The Body Fluids and Minerals**”.

9. As this section says, it is critically important that our cells have just the right amount of water inside them (not too much to swell and break open and not too little so they collapse). To control the flow of water, the body spends energy moving _____ from one compartment to another.
10. Look at the FIGURE in the section called “How Electrolytes Govern Water Flow”. In container 3, which side has a greater *concentration* of electrolytes, is it side A or is it side B?

Read the section with the heading “**The Major Minerals**”.

11. Fill in the blank: Too little calcium packed into the skeleton as a person is growing up strongly predicts susceptibility to osteoporosis. This section says “By about age _____ 10th edition (or the late _____ 11th edition), or 10 years after adult height is achieved, the skeleton no longer adds significantly to bone density.”
12. In the section about sodium, it says the way to keep "water weight" under control is to control salt intake and drink _____ water.
13. Compared to restricting sodium intake alone, which of the following foods does the DASH study indicate can often help achieve a lower blood pressure? (See the paragraph that **begins Sodium and Blood Pressure**. Select all that apply.)
- fruits
 - vegetables
 - nuts
 - fish
 - whole grain foods
 - low-fat milk
 - red meat

Note from Instructor: Keep in mind that that one of the downsides of restricting salt and sodium intake too severely is that it can mean food is less enjoyable, so certain nutritious foods, like nuts, cheese and many soups, are omitted from the diet because the salt-free versions just don't taste good. In many people's opinion, nutritious foods like cheese and nuts should not be omitted. Portion size is a key.

14. Look at FIGURE “Sources of Sodium in the U.S. Diet”. Which of the following foods has the most sodium?
- 1 serving of canned pasta like macaroni & cheese
 - 1/2 cup canned corn
 - 1/2 cup instant pudding
 - 1 hot dog (2-ounce)
15. Look at the SNAPSHOT called “Potassium”. Which food has the most potassium?
- orange juice (1 cup)
 - a banana
 - a baked potato
 - cooked salmon (4 ounces)

Read the section with the heading “**The Trace Minerals**”.

16. Read "What Happens to a Person Who Lacks Iron?". What is the condition called when people have an appetite for clay or trays of ice? _____
17. Does this condition always clear up after iron is given?
- Yes, it always clears up dramatically within days after iron is given.
 - No, it does not always clear up. Sometimes the condition is unresponsive to iron.
18. Read the paragraph that begins "Can A Person Take in Too Much Iron?". According to this page, why are infections likely in iron-rich blood (including urinary tract infections involving menstrual blood)?
- This says that iron-rich blood slightly elevates body temperature, which bacteria like.
 - This says that bacteria thrive on iron-rich blood.
19. Look at the **SNAPSHOT** called “Zinc”. Which food has the most zinc?
- beef steak (3 ounces)
 - yogurt (1 cup plain)
 - pork chop (3 ounces)
20. Take at the TABLES at the end of chapter 8 called “The Minerals- A Summary”. What is the first food listed as a "Significant Source" of magnesium?

Read the **FOOD FEATURE** called "Meeting the Need for Calcium”.

21. In discussing chocolate milk, does it say that the binder in cocoa, oxalic acid, significantly decreases the amount of calcium absorbed from a glass of chocolate milk?
- Yes, it says the binders significantly decrease the amount of calcium absorbed from a glass of chocolate milk compared to white milk.
 - It says the effect of the binders is probably insignificant. There is just slightly less calcium absorbed from chocolate milk compared to white milk.
22. According to the FIGURE in this section called “Calcium Absorption from Food Sources”, which is a more reliable source of calcium, is it cauliflower or is it spinach? _____

Read **Controversy** 8 at the end of chapter 8 called "Osteoporosis: Can Lifestyle Choices Reduce the Risk?".

23. Look at the FIGURE called “Two Women’s Bone Mass History Compared”. Woman A (Let’s call her Audrey) and woman B (Let’s call her Bertha) had their bone mass decline at the same rate as they aged. According to the figure, why did Bertha arrive at age 60 with beginning signs of osteoporosis while Audrey did not?
- The figure says that Audrey took calcium supplements while Bertha did not take them.
 - The figure says that Audrey entered adulthood with enough calcium in her bones to last a lifetime.
24. Look at the TABLE called "Risk and Protective Factors That Correlate With Osteoporosis". For each characteristic, choose whether it is a Risk Factor or a Protective Factor. (It can be a "high correlation", a "moderate correlation", or a "probably". There will be just 2 choices- Risk or Protective.) (On the Moodle questions, you will be asked just one of these.)

a. Black race	e. low-c calcium diet
b. thinness or weight loss	f. vitamin K intake
c. regular physical activity	g. high-protein diet
d. cigarette smoking	h. sedentary lifestyle

25. Look at the TABLE called “A Lifetime Plan for Healthy Bones”. At what ages are there Guidelines to “Drink fluoridated water”? (Select all that apply.)
- 2 through 12 or 13 years
 - 13 or 14 through 30 years
 - 31 through 50 years
 - 51 years and more

Regarding fluoride, city water in Eugene and Springfield is NOT fluoridated, but sometimes children here get too much fluoride when they frequently swallow toothpaste (the text as well as the American Dental Association recommends using no more than a *pea-sized amount*, and not swallowing it).

26. According to the section of **Lecture 8A** called "Nutrients Involved in **FLUID & ELECTROYTE BALANCE**", roughly what % of the sodium Americans consume may come from fast & processed foods?
- _____

27. According to the section of **Lecture 8A** called "Nutrients Involved in **FLUID & ELECTROYTE BALANCE**", which of the following in food can help prevent hypertension? (Select all that apply.)
- Phosphorus
 - Chloride
 - Calcium
 - Potassium
 - Magnesium
 - Sodium

28. According the section of **Lecture 8A** called "Nutrients Involved in **BONE HEALTH**", too much of what **MACRO**nutrient can promote calcium excretion?

29. According the section of **Lecture 8A** called "Nutrients Involved in **BONE HEALTH**", too much of what mineral can also promote calcium excretion? _____

30. Many students report being low in potassium. Adjust your intake for a day with **foods you like** to see if you can bring up your **potassium** intakes. You can look in your textbook in **chapter 8** for good sources of **potassium** (SNAPSHOT 8.4 and TABLE 8.11) (See instructions below.)

	Your Intake	Recommendation or Acceptable Range
Potassium		

What foods did you replace and what did you add?

Were you able to reach “Recommendation or Acceptable Range”? _____

If you already are meeting your “Recommendation or Acceptable Ranges” for these two nutrients, what do you think you are eating that provides these two nutrients? _____

(<http://www.mypyramidtracker.gov>)

(When you log in and see your Profile, click on the word “Calendar” to find that day.)

<p>Age: <input type="text" value="23"/></p> <p>Gender: <input type="text" value="Male"/></p> <p>Day/Year: <input type="text" value="5/30/2007"/> calendar</p> <p>Height: <input type="text" value="5"/> feet <input type="text" value="11"/> inches centimeters</p> <p>Weight: <input type="text" value="170"/> pounds kilograms</p> <p><input type="button" value="Save Today's Changes"/></p> <p><input type="button" value="Proceed to Food Intake"/></p> <p><input type="button" value="Proceed to Physical Activity"/></p>	<p>If the Calendar was June, Wilbur would click on the left-pointing sideways arrow tip to get May so he could see his food list for May 30.</p>
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31. Go to our Moodle online “class”. Click just above week 1 where it says “***Related Articles and Web Sites***”. Choose one of the items under Chapter **7** OR Chapter **8** and read it.
 What is the name of your choice from the list of “Related Articles and Web Sites” from either chapter **7** or **8**.
 Write a BRIEF description of the most interesting thing you learned and how you might be able to apply it.
32. **MYSTERY QUESTION**. For this one, have your Chapter 7 & 8 LECTURE in front of you. You will be asked 1 or more questions about something from one of the blanks in this LECTURE that was answered in **Lectures 7A** or **8A** which covered NUTRI-CHARTS 1 through 6.
33. Take a look at the FORUM for Week **7** (last week). Do you find one posting done by you? _____