

Chapter 9: Study Guide

Water & Minerals

Note: In addition to this study guide, make sure you know the Definitions highlighted in the margins, the Chapter Learning Outcomes at the beginning of the chapter, and the Practice Test at the end of the chapter.

1. Is the water content of your body constant throughout life? Explain.
2. How many kcal do you lose when you “sweat” a liter? (How many kcal do you need to “burn” to lose a pound of fat?)
3. Give examples how diffusion, filtration, and osmosis are used in your physiology:
4. What is tonicity? (hypo / hyper / iso) Use the RBC to answer this question.
5. What is the amount of water required to maintain water balance?
6. What are the different “water compartments” of the human body?
7. What organ is the major regulator of water and ions?
8. What two hormones help you conserve water? How is the action of these hormones different?
9. Name two different diuretics and explain their mode of action:
10. What is the weight of 0.5L of water? How much water must you lose before you feel weak and thirsty? How much water must you lose before you are likely to slip into a coma and die?
11. Can you die from drinking too much water? Why?
12. Where do minerals come from? How are they classified? Are they micro or macro nutrients?
13. During which life cycle are minerals required in increased quantity?
14. What is a more reliable source of mineral (p285)?
15. What is the only mineral added to gains during enrichment?
16. What is the most plentiful mineral in the human body?
17. How much calcium does your body absorb? Does this amount vary with your life stage?
18. Is bone a dynamic or static tissue? Explain.
19. Do most people consume the AI for calcium? Explain benefit and/or danger:
20. When might women expect to see a drop calcium uptake and bone mass? Why? Can this trend be reversed by simply increasing calcium uptake?
21. How much sodium is absorbed by your GI tract? What is the source of much of this salt? (natural or a food additive)
22. What is the relationship between sodium AI and the amount of sodium actually required? What is the UL for sodium?
23. What is the “silent killer”? How many adolescents were shown to have this condition in a recent study?
24. What are the clinical standards used to determine hypertension?
25. What are risk factors for hypertension?
26. What are the major intracellular and extracellular cations?
27. On average, do we consume too much potassium? On average, do we consume too much sodium? What can you eat to improve the balance of potassium and sodium?
28. What is the source for magnesium and where is it located?

29. What is the trace element stored in the liver? How is it stored in the liver?
30. How is iron used in the body? List three uses:
31. What is the difference between heme iron and nonheme iron?
32. On average, do males and females have enough iron in their diets to meet the RDA?
33. Worldwide, what is the most common dietary deficiency disorder?
34. Why do nutrition experts recommend that children between 1 and 5 years of age consume no more than 3 cups of cow milk daily? (p307)
35. Why is iodide necessary? What is the difference between iodine and iodide?
36. Why is chromium necessary?
37. What are ultratrace minerals and are they classified as essential nutrients?