Chapter 2 Study Guide Review Answers

1. Nucleic acid
2. Chemical reaction
3. Chemical energy
4. Fermentation
5. Photosynthesis
6. Glucose
7. Chlorophyll
8. Osmosis
9. Active and passive transport; cellular respiration and photosynthesis are complementary
10. Passive Transport: uses no energy. Active transport: requires energy. Both: moves materials through a membrane
11. A
12. D
13. B
14. B
15. D
16. C
17. D
18. All the chemical reactions in a cell take place in water
19. They map how to make new cells
20. It captures energy from the sun. this energy is used to change raw material into glucose
21. It loses water to the salt water, which has a lower concentration of water than the carrot does
22. Plants get their energy from the sun by the process of photosynthesis. Animals get their energy from the food they eat.
23. Most of a cell’s activities require chemical reactions
24. Cell membranes, made of lipids, repel water. It does not illustrate transport across a membrane.
25. Carbon dioxide and water; oxygen and sugar
26. Oxygen and sugar; carbon dioxide and water
27. Photosynthesis and cellular respiration can cycle into each other
28. Osmosis: no, yes. Active transport: yes, no. Passive transport: no, yes.
29. Because there was no oxygen, fermentation occurred when the yeast used the sugar in the grape juice.
30. It would put too much salt in the body, which would dehydrate the cells
31. It will decrease
32. Plants need energy from the sun
33. Yes, ultimately all the energy we get comes from the sun. Plants convert sunlight to energy. Some they use and some they store. We get energy from eating plants or from eating other animals that ate plants.
34. Plants use carbon dioxide to produce energy and they release oxygen, so in a way, they clean the air we breathe. If developers clear a forest for the shopping center, there would be an increase in carbon dioxide from the increased traffic and fewer trees to use the carbon dioxide.