

Name \_\_\_\_\_ Period \_\_\_\_\_

### Cells: Do I Know The Answers?

1. Cellular respiration (which produces usable energy for the cell) occurs in which organelle?
2. The substance that fills the cell is called \_\_\_\_\_
3. The term semipermeable (selectively permeable) is used to describe cell membranes. What does semipermeable mean?
4. Which part of the cell regulates what enters or leaves the cell?
5. The cell organelles that produce glucose in the process of photosynthesis are the \_\_\_\_\_
6. Which organelle is the “post office/fed ex” of the cell because it packages and labels proteins?
7. What is the function of the nucleus?
8. All cells have a cell membrane but animal cells lack what structures?
9. What type of cell only has a few organelles and no nucleus?
10. Human cells are considered which type of cell?
11. What do animal cells have that plant cells generally don't have?
12. Movement of molecules from a lower concentration to a higher concentration is called:
13. Movement of water across a selectively permeable membrane is called:
14. All of the following are passive processes EXCEPT:
  - a. osmosis
  - b. diffusion
  - c. active transport
  - d. facilitated diffusion
15. Cells need to maintain homeostasis. If a cell (with many minerals and salts) is placed in a hypotonic solution, what will happen to the cell? In order to maintain homeostasis what will the cell try to do?

16. What is one difference between diffusion and active transport?



17. A cell is placed into a beaker of water as shown above. The solution around the cell is hypertonic. Circles represent salt molecules and blank space represents water. What will happen to the cell?

18. Name 3 examples of autotrophs.

19. Which compound is the main storage molecule of the body for energy?

20. In addition to light and chlorophyll, photosynthesis requires what two other reactants?

21. The leaves of a plant appear green because chlorophyll

- A. reflects blue light
- B. absorbs blue light
- C. does not absorb green light
- D. absorbs green light

22. The products of photosynthesis are

23. In the mitochondria, the energy available in food is converted to make an energy-rich compound called \_\_\_\_\_.

24. During heavy exercise, the buildup of lactic acid in muscle cells is due to what process?

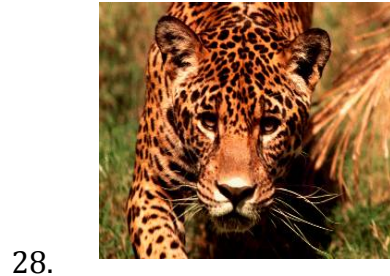
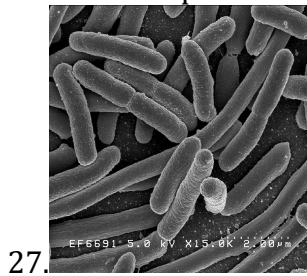
25. Which of the following organisms carry out cellular respiration?

- A. autotrophs only
- B. bacteria only
- C. both autotrophs and heterotrophs
- D. heterotrophs only

For questions 26-28 identify how each organism obtains energy with its picture.

A. autotroph

b. Heterotroph      C Both

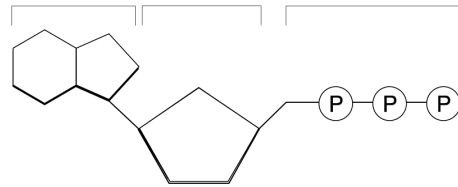


29. During cellular respiration **how many net ATP molecules** from one glucose molecule are made?

30. Because fermentation takes place in the absence of oxygen, it is said to be

- A. aerobic respiration
- B. anaerobic respiration
- C. the dark reaction
- D. glucose formation

31. What is this energy molecule to the right?



32. How is ADP similar to an uncharged battery?

33. An organism that **cannot** make its own food is called

34. When people exercise too hard what gets built up in their muscles and causes pain?

35. Cellular Respiration requires what two reactants?

36. Cellular Respiration produces what three products?

37. The relationship between respiration and photosynthesis is

38. When you eat  $C_6H_{12}O_6$ , what happens to the **carbon** during cellular respiration?

39. If carbon dioxide is removed from a plant's environment, what would you expect to happen to the plant's production of high-energy sugars (glucose)?

40. What are three factors that may affect the rate of photosynthesis?

41. All of the following are sources of energy during human exercise EXCEPT
- A. stored ATP
  - B. alcoholic fermentation
  - C. lactic acid fermentation
  - D. cellular respiration
42. Cellular respiration releases energy by breaking down what?
43. Organisms, such as plants, that make their own food are called
44. Which of the following are used in the overall reactions for photosynthesis?
- A. carbon dioxide
  - B. water
  - C. light
  - D. all of the above
45. All of the following are examples of active transport EXCEPT:
- A. endocytosis
  - B. exocytosis
  - C. pump
  - D. facilitated diffusion