Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Exchange with the Environment

1. How is an organism's cell like a factory?

_____

_____

_____

WHAT IS DIFFUSION?

2. The movement of particles from areas of high concentration to areas of low concentration is called _____.

3. The fluids that surround and fill a cell are made mostly of _____.

4. Water is made up of particles called _____.

5. The diffusion of water through a semipermeable membrane is called _____.

6. What is the result of osmosis?

_____

7. What process is important to cell functions?

_____

8. Describe what would happen if you put red blood cells into a salty solution.

_____

_____

_____

9. Describe the effect of osmosis on a wilted plant that has been watered.

_____

_____

_____

Name _____ Class _____ Date _____

Directed Reading A *continued*

MOVING SMALL PARTICLES

Match the correct description with the correct term. Write the letter in the space provided.

_____**10.** particles moving across a cell membrane without using energy

_____**11.** passageways in a cell membrane

_____**12.** the movement of particles from an area of low to an area of high concentration across a cell membrane

_____**13.** two examples of passive transport

_____**14.** a cell needs this to transport particles by active transport

a. channels
b. active transport
c. passive transport
d. diffusion and osmosis
e. energy

15. The channels in a cell membrane are made up of _____.

MOVING LARGE PARTICLES

16. A large particle can enter a cell using a process called _____.

17. What happens to a cell during the process of endocytosis?

_____

_____

_____

_____

18. A large particle can leave a cell using a process called _____.

19. What happens to a cell during the process of exocytosis?

_____

_____

_____

_____

Name _____ Class _____ Date _____

Directed Reading A *continued*

Use the figures below to answer questions 20 and 21.

Figure A

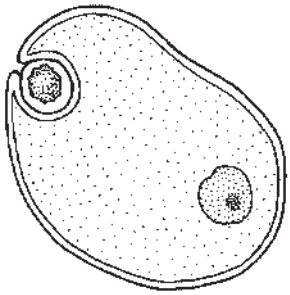


Figure B

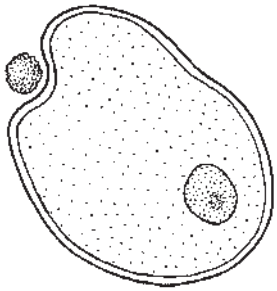
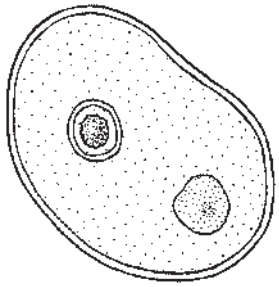


Figure C



20. In which order would the figures demonstrate exocytosis?

_____

_____

21. In which order would the figures demonstrate endocytosis?

_____

_____

Answer Key

Directed Reading A

SECTION: EXCHANGE WITH THE ENVIRONMENT

1. Like a factory, an organism must obtain energy and raw materials and get rid of wastes
2. diffusion
3. water
4. molecules
5. osmosis
6. water particles move to where they are less concentrated
7. osmosis
8. The water will move out of the cells to where water molecules are less concentrated in the salty solution. The cells will shrivel up.
9. Osmosis makes the plant firm again.
10. C
11. A
12. B
13. D
14. E
15. proteins
16. endocytosis
17. The cell surrounds a large particle and encloses it in a vesicle to bring the particle into the cell.
18. exocytosis
19. The cell forms a vesicle around the large particle and the vesicle carries the particle to the cell membrane. The vesicle fuses with the membrane and releases the particle to the outside of the cell.
20. C, A, B
21. B, A, C

SECTION: CELL ENERGY

1. When I feel hungry, my body is telling me that my cells need energy.
2. the sun
3. food
4. D
5. photosynthesis
6. pigments
7. chlorophyll
8. a simple sugar or carbohydrate
9. Glucose is a plant's "food."
10. glucose, oxygen
11. cellular respiration
12. fermentation
13. Breathing allows many organisms to take in oxygen and get rid of CO_2. The oxygen supplied to the cells helps them perform cellular respiration.
14. Food, such as glucose, is broken down into CO_2 and H_2O, and energy is released.
15. My body uses the energy released during cellular respiration to maintain my temperature.
16. energy
17. mitochondria
18. In cellular respiration, cells use oxygen to break down glucose and release energy and CO_2, H_2O, and energy.
19. When I exercise strenuously, my muscles don't receive enough oxygen needed for cellular respiration. Fermentation produces lactic acid, which contributes to muscles fatigue.
20. Another type of fermentation occurs in some types of bacteria and in yeasts.
21. Yeast forms carbon dioxide (CO_2) during fermentation. The bubbles of carbon dioxide gas cause the dough to rise.
22. D
23. F
24. B
25. C
26. A
27. E

SECTION: THE CELL CYCLE

1. It is important for your body to produce millions of new cells because this allows you to grow and replace cells that have died.
2. A
3. B
4. Before it divides, a cell must make a copy of its deoxyribonucleic acid (DNA).
5. the copying of chromosomes