Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I CAN explain how materials move in and out of a cell.

Period\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_

CELL TRANSPORT

CHAPTER 4 Section 1

**Match the definition on the left with the term on the right.**

1. \_\_\_\_\_ release of wastes or cell products from inside to outside a cell
2. diffusion
3. dynamic equilibrium
4. exocytosis
5. osmosis
6. \_\_\_\_\_ diffusion of water molecules through a selectively permeable

membrane

1. \_\_\_\_\_ continuous movement of particles but no overall change in

concentration

1. \_\_\_\_\_ movement of particles from an area of higher concentration to one

of lower concentration

**In the space at the left, write true if the statement is true. If the statement is false, change the italicized term to make the statement true. Write this answer in the blank provided.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. In *passive transport*, the movement of particles across a protein doorways requires energy.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. *Endocytosis* is a process by which a cell membrane surrounds and takes in material from

the environment.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7. A membrane that allows only some materials to pass through shows *selective permeability.*

**Circle the word or phrase that best completes the statement or answers the question.**

8. The structure most responsible for maintaining cell ***homeostasis*** is the

**cytoplasm cell wall mitochondria cell membrane**

9. A cell membrane is made up of a(n)

**cholesterol layer enzyme layer lipid bilayer protein layer**

10. Which of the following uses energy?

**diffusion endocytosis osmosis**

11. Diffusion continues until

**equilibrium is reached turgor pressure is reached one side has more**

12. If a cell is placed in salt water, water leaves the cell by

**osmosis diffusion active transport phagocytosis**

13. A cell moves particles from a region of lesser concentration to a region of higher concentration by

**diffusion osmosis passive transport active transport**

**Use the pictures on the left to answer the questions on the right.**

**14. After digestion:**

 = glucose molecule

a. Which side has the higher concentration of glucose? \_\_\_\_\_\_\_\_

b. Which way will the glucose go? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**blood**

**cell**

c. Does this require energy? \_\_\_\_\_\_\_\_\_\_\_

d. Is this active or passive transport? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15. Easter egg coloring**:

A blue food coloring tablet is placed in a cup of vinegar and water. The blue tablet will

dissolve and spread evenly throughout the liquid.

beaker

a. Is this diffusion or osmosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Does this require energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

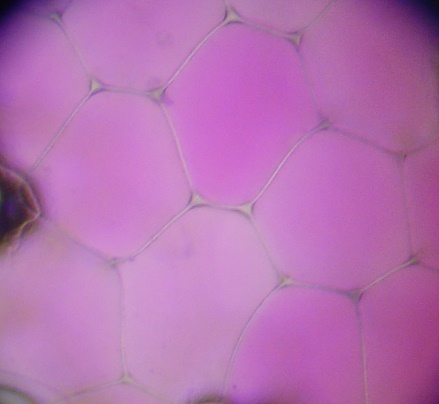
c. Is the blue dye going from a lower to a higher concentration,

Water and vinegar

or from a higher to a lower concentration? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Blue food color tablet

**16. Plant cell after being over-watered.**

1. Water rushes into the plant cell’s vacuole. Is this diffusion

or osmosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**17. Plant cell after not being watered lately, so it has begun to wilt:**

[](http://en.wikipedia.org/wiki/Image:Rhoeo_Discolor_-_Plasmolysis.jp)

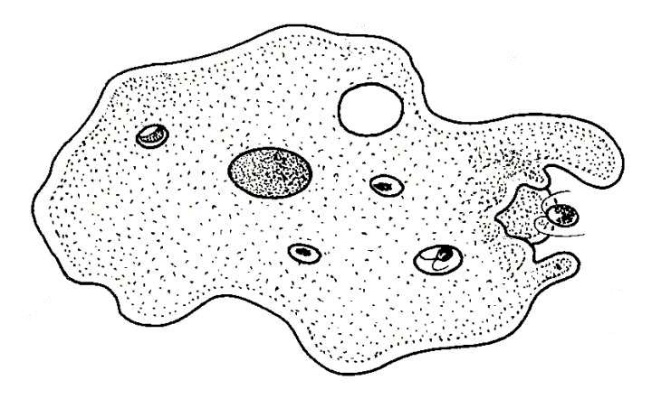
1. Which way will the water go? Into the vacuole, or out of the

vacuole? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. By what process will the water move?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18. An amoeba engulfs a particle of food.**

[](http://www.biology-resources.com/drawing-amoeba-breathing.htm)

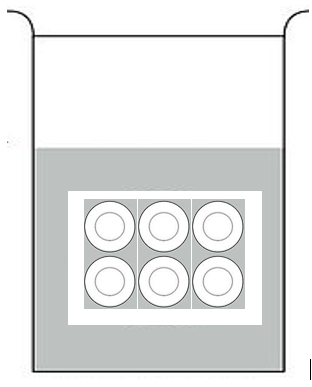
1. Does this require energy?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Is this endocytosis or exocytosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

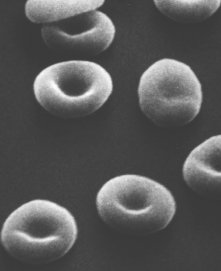
**19. An amoeba expels waste.**

[](http://www.pitt.edu/~biohome/Dept/Img/graphics/diabetes2.jp)Does this require energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Is this endocytosis or exocytosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20. Red bloods cells placed in beaker of water**





a. Will water move from the red blood cells to the beaker of water,

or from the beaker of water to the red blood cells?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

water

b. Which has the higher concentration of water, the beaker of water

or the red blood cells?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

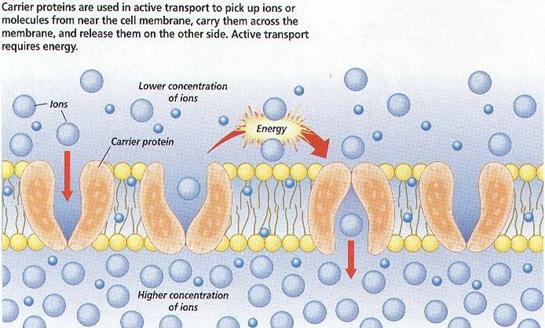
c. Does this require energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

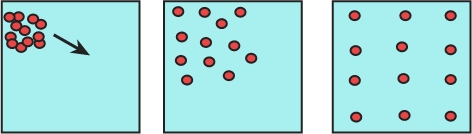
d. Is this diffusion or osmosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

red blood cells

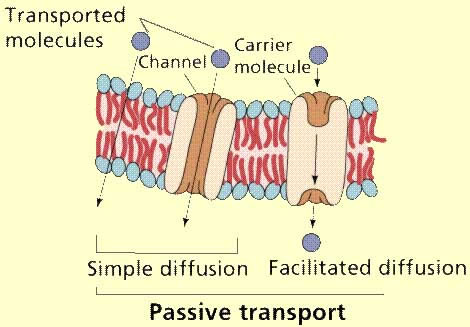
Identify each image as: **diffusion**, **osmosis**, **passive transport, active transport**,

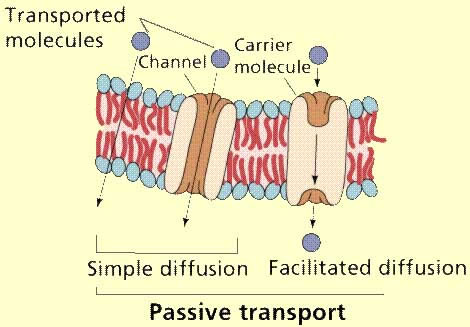
**exocytosis** or **endocytosis**.

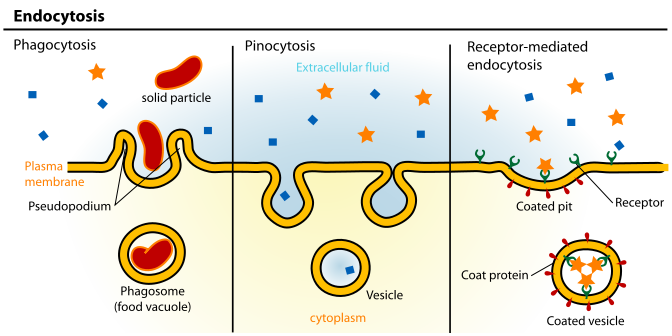
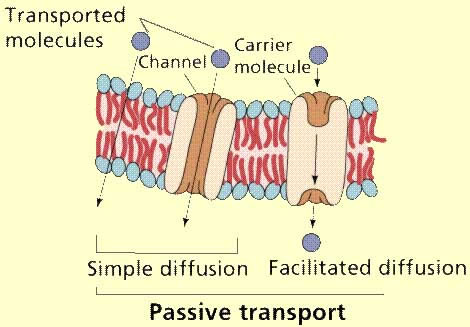


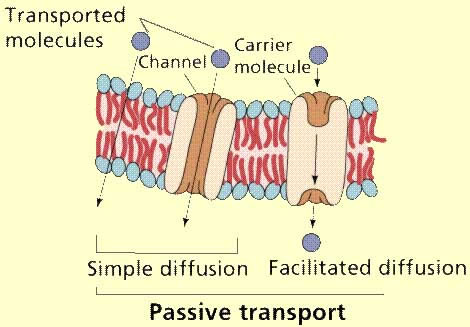


21. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 22. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



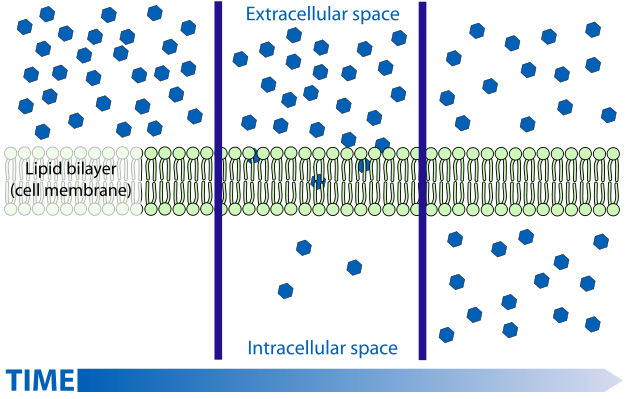
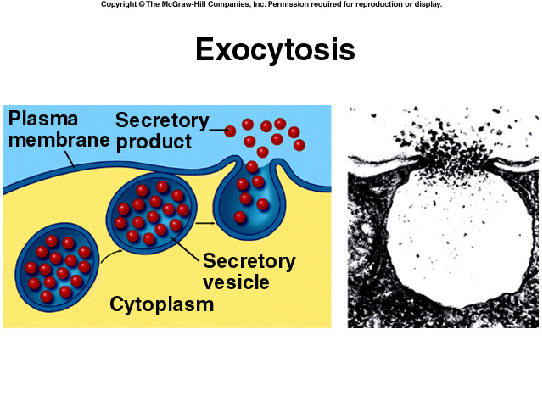






23. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 24. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**water molecules**



25. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 26. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

27. Describe ***diffusion***:

* Moves things into/out of the cell (circle one or both!)
* Moves from high-to-low/low-to-high concentration(circle one)
* For large/small molecules (circle one or both!)
* Uses/does not use protein doorway (circle one)

28. Describe ***osmosis***:

* Moves things into/out of the cell (circle one or both!)
* Moves from high-to-low/low-to-high concentration (circle one)
* For large/small molecules (circle one or both!)
* Uses/does not use protein doorway (circle one)

29. Describe ***passive transport:***

* Moves things into/out of the cell (circle one or both!)
* Moves from high-to-low/low-to-high concentration (circle one)
* For large/small molecules (circle one or both!)
* Uses/does not use protein doorway (circle one)

30. Describe ***active transport***:

* Moves things into/out of the cell (circle one or both!)
* Moves from high-to-low/low-to-high concentration (circle one)
* For large/small molecules (circle one or both!)
* Uses/does not use protein doorway (circle one)

31. Describe ***endocytosis***:

* Uses or does not use energy (circle one)
* Moves things into/out of the cell (circle one or both!)
* For large/small molecules (circle one or both!)

32. Describe ***exocytosis***:

* Uses or does not use energy (circle one)
* Moves things into/out of the cell (circle one or both!)
* For large/small molecules (circle one or both!)