

Name: \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## Cell Transport Review Worksheet

Complete the table by checking the correct column for each statement:

Statement	Isotonic solution	Hypotonic solution	Hypertonic solution
Causes a cell to swell			
Doesn't change the shape of a cell			
Causes osmosis			
Causes a cell to shrink			

Match the term with its correct description:

- |                          |                     |
|--------------------------|---------------------|
| a. energy                | e. active transport |
| b. facilitated diffusion | f. exocytosis       |
| c. endocytosis           | g. carrier protein  |
| d. passive transport     | h. channel protein  |

\_\_\_\_\_ Transport protein that provides a tube-like opening in the plasma membrane through which particles can diffuse.

\_\_\_\_\_ Is used during active transport but not passive transport

\_\_\_\_\_ Process by which a cell takes in material by forming a vacuole around it

\_\_\_\_\_ Particle movement from an area of higher concentration to an area of lower concentration.

\_\_\_\_\_ Process by which a cell expels wastes from a vacuole

\_\_\_\_\_ A form of passive transport that uses transport proteins

\_\_\_\_\_ Particle movement from an area of lower concentration to an area of higher concentration.

\_\_\_\_\_ Transport protein that changes shape when a particle binds with it

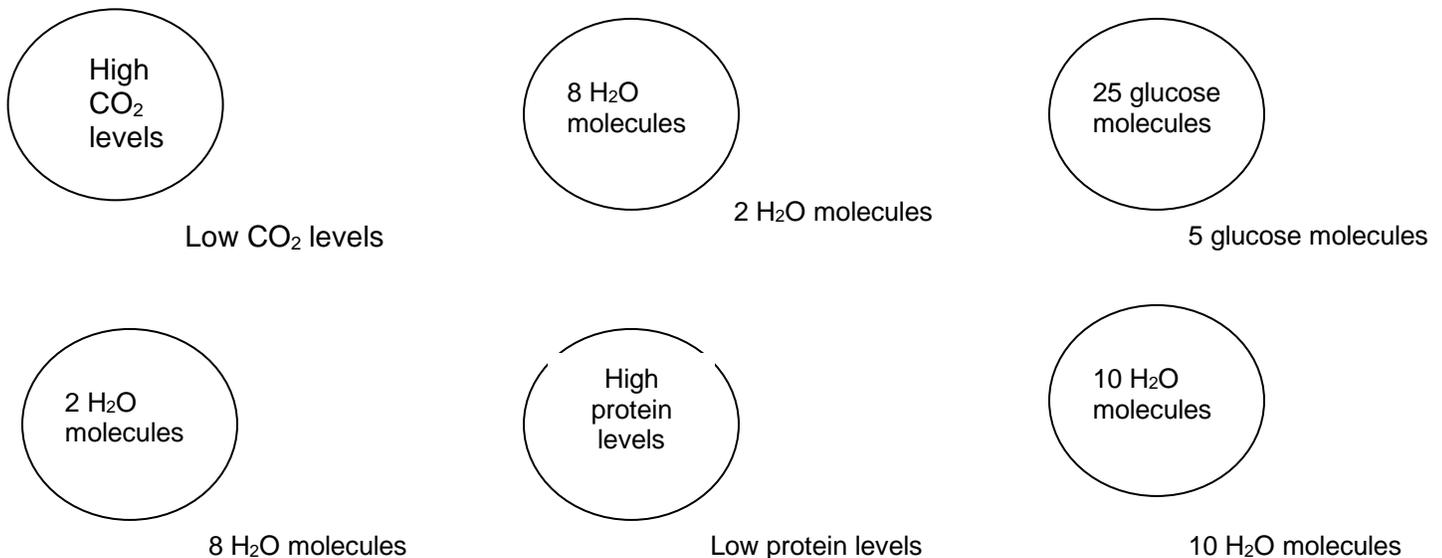
Match the term with its correct description:

- |                      |                      |                |
|----------------------|----------------------|----------------|
| a. Transport protein | d. passive transport | g. exocytosis  |
| b. active transport  | e. osmosis           | h. equilibrium |
| c. diffusion         | f. endocytosis       |                |

\_\_\_\_\_ The diffusion of water through a cell membrane

- \_\_\_\_\_ The movement of substances through the cell membrane without the use of cellular energy.
- \_\_\_\_\_ Used to help substances enter or exit the cell membrane
- \_\_\_\_\_ When energy is required to move materials through a cell membrane
- \_\_\_\_\_ When the molecules of one substance are spread evenly throughout another substance to become balanced.
- \_\_\_\_\_ A vacuole membrane fuses (becomes a part of) the cell membrane and the contents are released.
- \_\_\_\_\_ The cell membrane forms around another substance, for example, how the amoeba gets its food.
- \_\_\_\_\_ When molecules move from areas of high concentration to areas of low concentration.

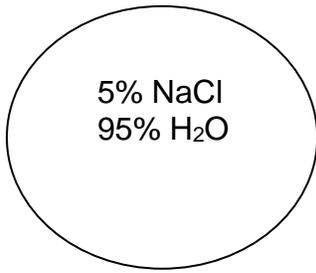
**Label the diagrams of cells using the following terms: diffusion, active transport, osmosis, facilitated diffusion, or equilibrium. The arrows show the direction of transport. You may use the terms more than once!**



## **Osmosis Practice Activity**

Osmosis is the diffusion of water from an area of high concentration to an area of low concentration. Only water moves in osmosis! The diagrams below show the concentration of water and salt inside the cell and the concentration of water and salt surrounding the cell. Complete the sentences below by comparing the concentration of the water inside the cell and the concentration outside the cell.

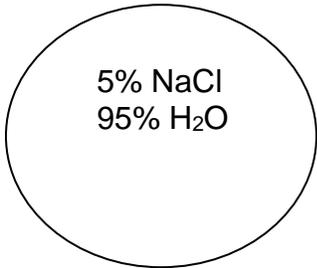
1.



95% NaCl  
5% H<sub>2</sub>O

- a. Water will flow \_\_\_\_\_ (into the cell, out of the cell, in both directions).
- b. The cell will \_\_\_\_\_ (shrink, burst, stay the same).

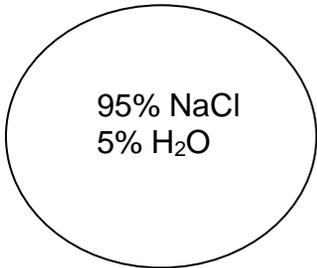
2.



5% NaCl  
95% H<sub>2</sub>O

- a. Water will flow \_\_\_\_\_ (into the cell, out of the cell, in both directions).
- b. The cell will \_\_\_\_\_ (shrink, burst, stay the same).

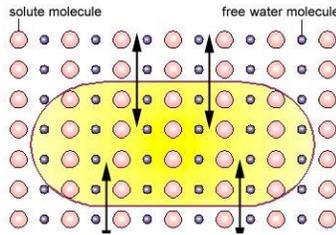
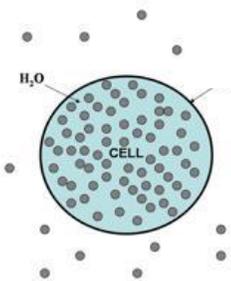
3.



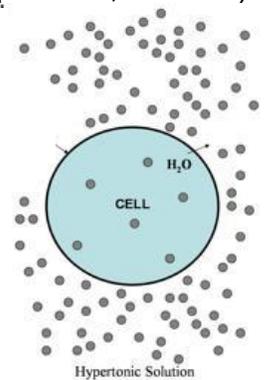
5% NaCl  
95% H<sub>2</sub>O

- a. Water will flow \_\_\_\_\_ (into the cell, out of the cell, in both directions).
- b. The cell will \_\_\_\_\_ (shrink, burst, stay the same).

4. At which solution of concentration gradient is each cell diagram? (Hypotonic, Hypertonic, Isotonic)



concentration are the same inside and outside the cell.  
Water flows in and out of the cell at an equal rate.

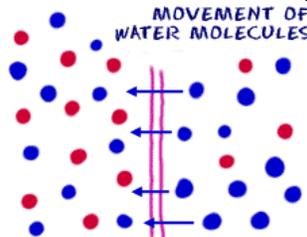


a. \_\_\_\_\_

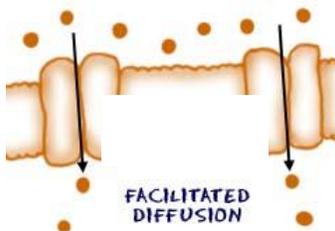
b. \_\_\_\_\_

c. \_\_\_\_\_

5. This diagram is moving from a high to a low concentration: \_\_\_\_\_

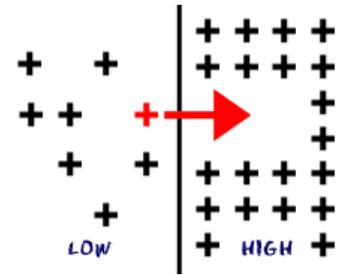
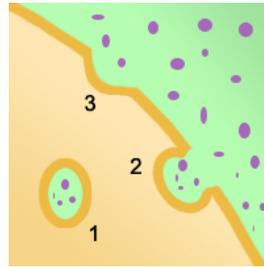
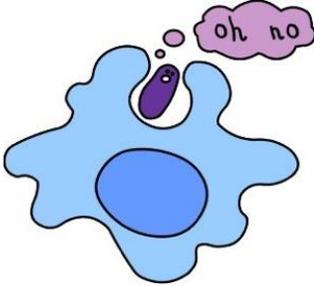


6. Using a transport protein to move \_\_\_\_\_



particles across the membrane:

7. Describe the processes occurring in the following pictures:



8. Define homeostasis.

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9. What role does the cell membrane play in maintaining homeostasis?

10. How is facilitated diffusion different from diffusion? How are they similar?

11. List two ways that active transport is different than passive transport.

1) \_\_\_\_\_

2) \_\_\_\_\_

12. Why is the sodium-potassium pump considered an active transport? Which direction are the sodium and potassium being pumped? How many sodium are being pumped? How many potassium are being pumped?

13. What are the 5 functions of the cell membrane?

1)

2)

3)

4)

5)

14. Label the Phospholipid. Include the terms: Phosphate Head, Fatty Acid Tail, Hydrophilic, Hydrophobic.

