WLHS/Biology/Oppelt Name _____

Cell Transport Review Worksheet

Part 1: Complete the table by checking (✓) the correct column for each statement:

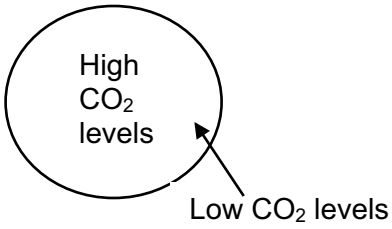
Statement	Isotonic solution	Hypotonic solution	Hypertonic solution
Causes a cell to swell			
Doesn't change the shape of a cell			
Causes osmosis			
Causes a cell to shrink			

Part 2: Match the term with its correct description:

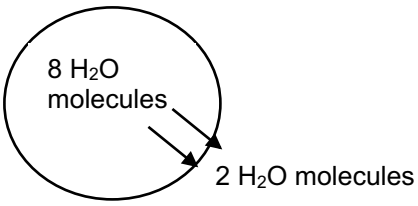
A. osmosis C. active transport E. facilitated diffusion G. diffusion
B. exocytosis D. endocytosis F. passive transport H. energy

Answer	Description
	1. Is used during active transport but not passive transport
	2. Process by which a cell takes in material by forming a vesicle around it
	3. Particle movement from an area of higher concentration to an area of lower concentration
	4. Process by which a cell expels wastes from a vesicle
	5. Particle movement from an area of higher concentration to an area of lower concentration using a transport protein
	6. The diffusion of water through a cell membrane
	7. When energy is required to move materials through a cell membrane
	8. When energy is NOT required to move materials through a cell membrane

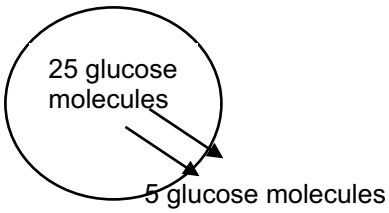
Part 3: Label the diagrams of cells using the following terms: diffusion, active transport, osmosis, equilibrium. The arrows show the direction of transport. You may use the terms more than once!



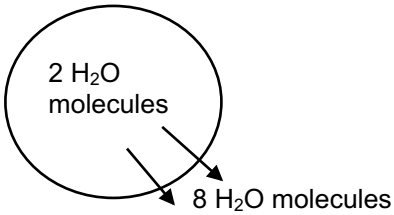
_____



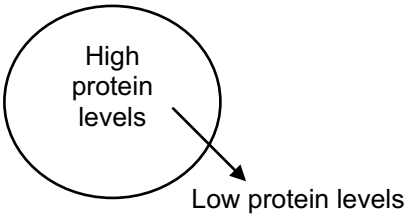
_____



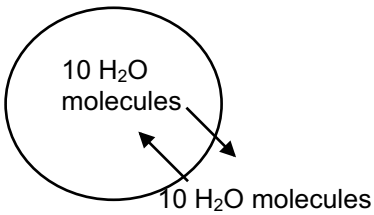
_____



_____



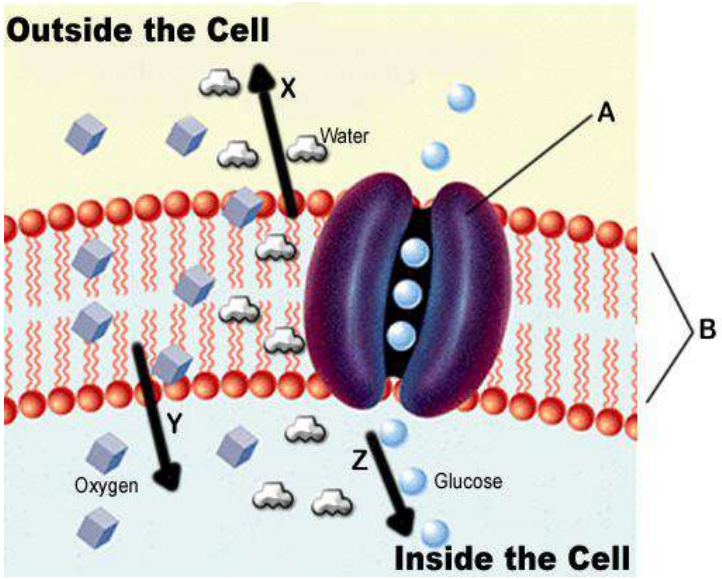
_____



_____

Part 4: Passive Transport Review

Match the structure/process to the letter:



1. Phospholipid bilayer ____
2. Osmosis _____
3. Simple Diffusion ____
4. Facilitated Diffusion _____
5. Channel protein ____

6. This cell would be in a [hypertonic / hypotonic / isotonic] solution.

7. All of the processes in the image are examples of [active / passive] transport.

8. The cell membrane can be described as [semi-permeable / impermeable]

9. There is more glucose [inside / outside] the cell. (Hint: Look at the direction it is moving)

10. Over time, this cell will [shrink / swell]

Part 5: Review of Osmosis

1. In the diagram below, draw the direction that **WATER** will move in each of the beakers.

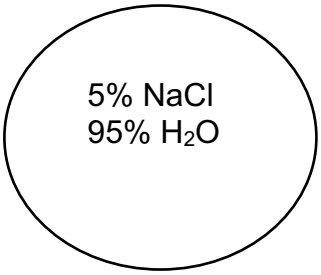
a. _____ b. _____ c. _____

2. In the diagram above, label each beaker whether it is *hypertonic, hypotonic, or isotonic*.

Part 6: 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.

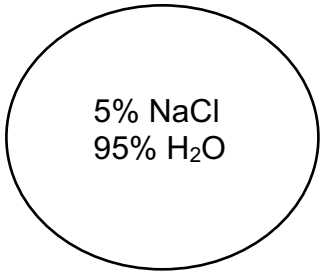


95% NaCl
5% H_2O

a. Water will flow _____ (into the cell, out of the cell, in both directions).

b. The cell will _____ (shrink, burst, stay the same).

2.

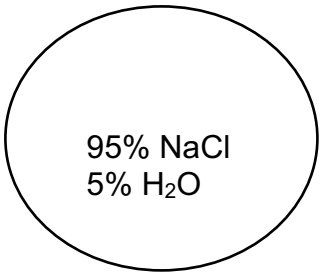


5% NaCl
95% H_2O

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_2O

a. Water will flow _____ (into the cell, out of the cell, in both directions).

b. The cell will _____ (shrink, burst, stay the same).

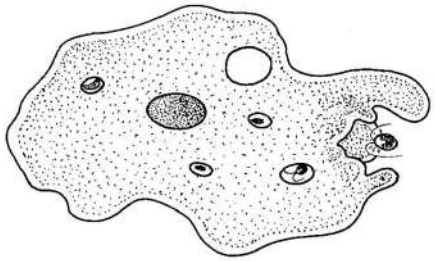
Part 7: Active Transport

1. In the picture to the right, an amoeba engulfs a particle of food.

a. Does this require energy?_____

b. Is this active or passive transport? _____

c. Is this endocytosis or exocytosis? _____



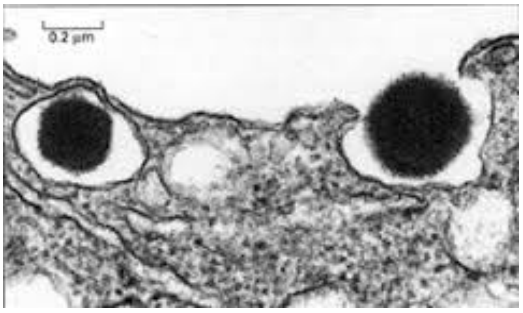
http://www.biology4kids.com/files/cell2_activetran.html

2. In the picture to the right, an amoeba expels waste.

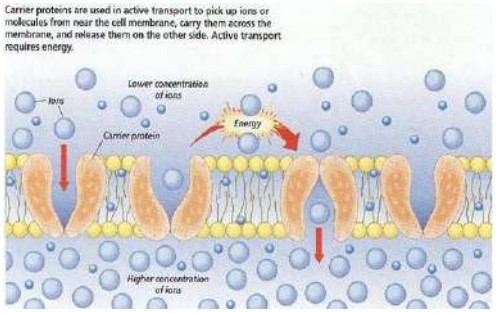
a. Does this require energy? _____

b. Is this active or passive transport? _____

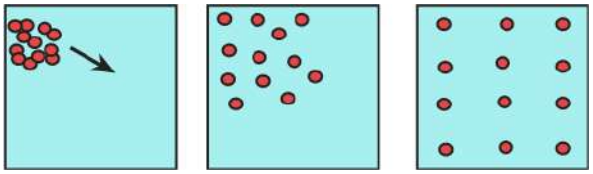
c. Is this endocytosis or exocytosis? _____



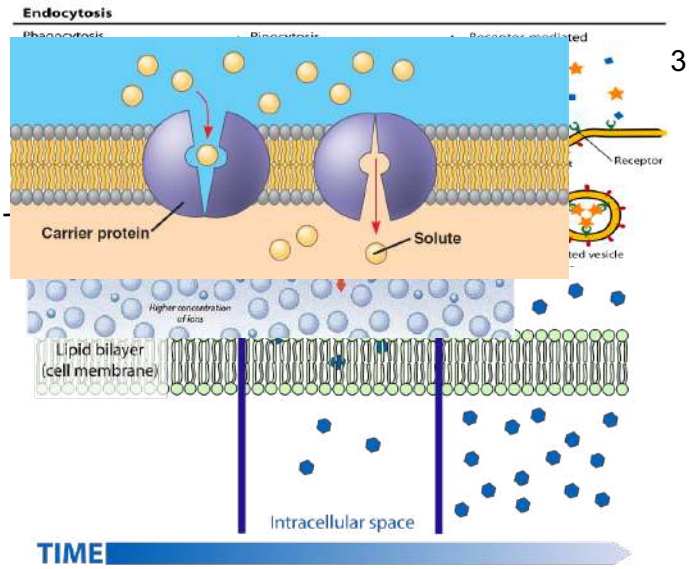
Part 8: Cell transport review:
Examine the pictures below and identify each image as: **diffusion**, **osmosis**, **facilitative diffusion, active transport**, **exocytosis** or **endocytosis**. NOTE: Terms may only be used once.



1. _____

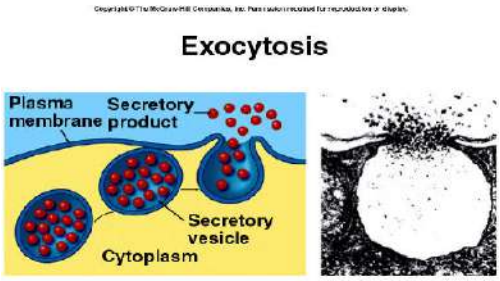


2. _____



3. _____

4. _____



5. _____

6. _____