

Homework 2.2 : Osmosis & Cell Transport

1. What is the term that refers to water moving across a selectively permeable membrane? _____
2. Jack sprays cologne in the corner of the room and 30 seconds later Jill smells it. This concept is known as:
 - a. Diffusion
 - b. Osmosis
 - c. Concentration Gradient
 - d. Hypertonic
3. When Kool-Aid mixture is added to water, it dissolves. After stirring, all of the water turns a certain color. What is the solute and the solvent in this example?
Solute: _____ Solvent: _____
4. In diffusion, solutes move from an area of HIGH/LOW (circle one) concentration to an area of HIGH/LOW (circle one) concentration.
5. What is the biggest difference between osmosis and diffusion? _____

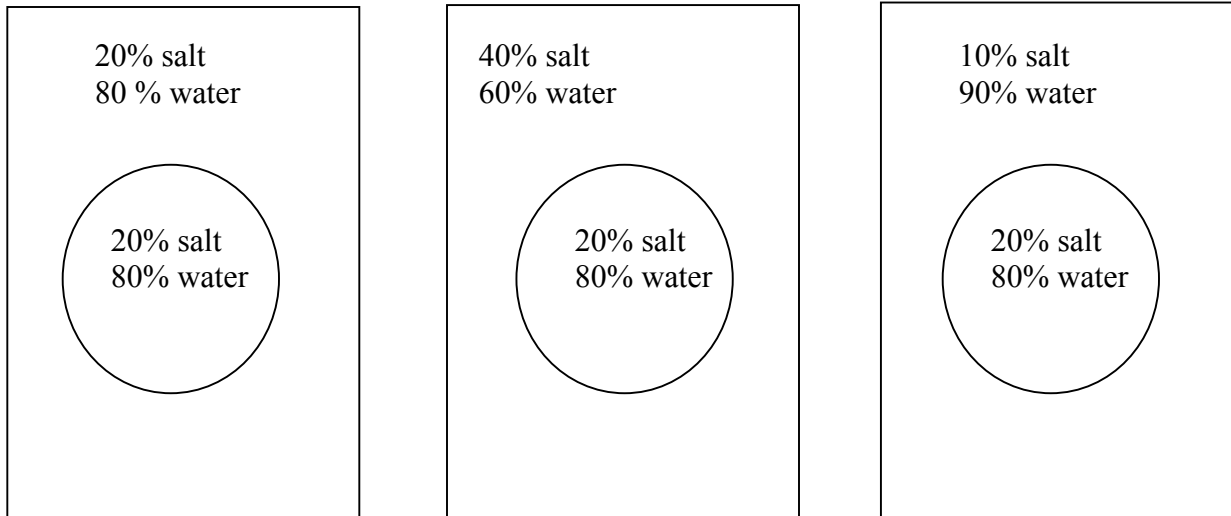
6. A hypertonic solution has MORE/LESS (circle one) solute than a cell in that environment.
7. A hypotonic solution has MORE/LESS (circle one) solute than a cell in that environment.
8. If I place a potato in a solution and the next day the mass of the potato decreases it was placed in a(n) _____ solution.
 - a. hypotonic
 - b. hypertonic
 - c. isotonic
 - d. heavytonic
9. If a cell is placed in salt water, water will leave the cell through what process?
10. What will happen to bacterial cells that normally live in freshwater are placed in salt water?
 - A) Water leaves the cell and the cell expands.
 - B) Water leaves the cell and the cell shrinks
 - C) Water enters the cell and the cell expands
 - D) Water enters the cell and the cell shrinks
11. Some plants grow in salt marshes (very salty environments) and store salt in their roots. This makes the salt concentration in the roots greater than that of the surrounding water. What most likely occurs in response to the salt concentration difference?
 - A) Salt moves into the roots
 - B) Water moves into the roots
 - C) Salt moves out of the roots
 - D) Water moves out of the roots

Name: _____ Period: _____ DUE DATE: Friday, November, 22, 2013

12. A cell which normally lives in a 10% saltwater solution was moved into another solution. Which of these solutions would cause the cell to increase in size at the greatest rate?

- A. 0% saltwater solution B. 5% saltwater solution
C. 10% saltwater solution D. 20% saltwater solution

13. **LABEL:** Label the following SOLUTIONS as hypotonic, isotonic, or hypertonic



DRAW: On the pictures above, draw in ARROWS (→) to represent the way water moves in the cells

14. A cell with a salt concentration of 70% is placed in an environment with a salt concentration of 30%. Is the cell in a **hypertonic, hypotonic, or isotonic** (Circle one) solution? Draw this situation in the space below and draw an arrow to show the direction of water movement.

15. Check the appropriate boxes below.

Statement	Isotonic Solution	Hypotonic Solution	Hypertonic Solution
Causes a cell to get bigger			
Does not change the size of the cell			
Causes osmosis			
Causes a cell to shrink			