

Task Sheet

Directions: Fill this sheet out in class as we go. At the end, you can use this sheet to see what you are to know and understand. You can use this as a study sheet for the final assessment of this subject. Periodically, I will call on you to use the information that you have collected on your sheet to do in-class exercises.

1. Define diffusion.
2. Describe 2 demonstrations of diffusion that you observed in class.
3. Think of an example that you have observed in your daily activities in the last month that illustrates diffusion.
4. Define osmosis.
5. Define the following terms and draw a picture illustrating each definition.

Hypotonic solution:

Include picture here of a hypotonic solution around a living cell.

Hypertonic solution:

Include a picture here of a hypertonic solution around a living cell.

(Pictures of each can be found on the board.)

6. Describe the experiment done in class to demonstrate osmosis.

Materials:

Procedure:

Observed Results:

Analysis:

After observing the experiment and writing what you could, compare your results with that of a neighbor.

7. Describe the osmotic events that occurred when different setups of different cells were placed in differing osmotic concentrations.

	Hypertonic Solution	Hypotonic Solution
Elodea Cell		
Potato Slice		
Blood Cells		

8. List 2 examples of osmosis that you have actually observed in your daily activities in the last month.

Final Assessment

1. Define diffusion.

2. Define osmosis.

3. Describe the class experiment on osmosis using dialysis tubing. Describe the procedure and the results.

4. Describe how this principle regulates how cells lose and gain water.

5. Draw diagrams of a hypotonic solution and a hypertonic solution.

Lab Setup

Explanation of experiment using dialysis tubing:

1. Cut a piece of dialysis tubing at least 6" long.
2. Fill dialysis tubing with starch solution.
3. Tie ends of dialysis tubing closed with string.
4. Place dialysis tubing into tap water with iodine added.

Students watch as the material inside the dialysis tubing starts to turn blue-black while the iodine water does not turn blue-black but continually loses color.

This activity demonstrates how water moves through a living system similar to a living cell with a semi-permeable membrane to bring the two solutions into equilibrium.