

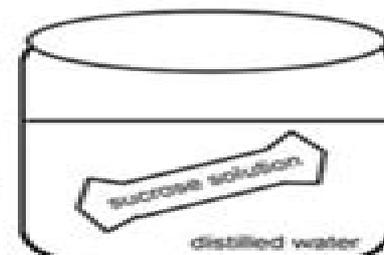
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AP BIOLOGY LAB: DIFFUSION AND OSMOSIS

In this lab, you will observe the process of osmosis and diffusion. You will also learn how to calculate water potential. If you are not familiar with these concepts, make sure that you have looked them up in your textbook. If you don't know what these terms mean, this lab is not going to make sense to you.

OBJECTIVES

- Investigate the processes of osmosis and diffusion in a model of a membrane system
- Investigate the effect of solute concentration on water potential as it relates to living plant tissues



Exercise 1 - Osmosis Across a Membrane

- Obtain 6 strips of dialysis tubing and tie an knot in one end of each.
- Pour approximately 25 mL of each of the following solutions into separate bags.

Distilled Water	0.4 M sucrose	0.8 M sucrose
0.2 M sucrose	0.6 M sucrose	1.0 M sucrose

- Remove most of the air from the bag (but leave a little bit of space) and tie the baggie.
- Rinse the baggie carefully in distilled water to remove any sucrose that may have spilled and carefully blot.
- Record the mass of each baggie.
- Fill six 250 mL beakers two-thirds full with distilled water and place a bag in each of them. Make sure that you record which baggie is which.
- Let the bag sit for 20-30 minutes. (While this is running, you may want to begin exercise 3.)
- After 20-30 minutes, remove the baggies from the water, and carefully blot dry.

Predict what you think will happen during the experiment. (Think about which bags will lose water and which will gain water.)

- Measure the mass of each baggie and record.
- To calculate: percent change in mass = $(\text{final mass} - \text{initial mass}) / \text{initial mass}$. Then multiply answer by 100.
- Gather the data from the other groups in the class and find the class average for each baggie.

Contents in Bag	Initial Mass	Final Mass	Mass Difference	% Change in Mass	Average
Distilled Water					
0.2 M					
0.4 M					
0.6 M					
0.8 M					
1.0 M					

- Graph the results for both your **individual data** and **class average** on on graph. The independent variable is on the X axis, and the dependent variable is on the Y axis

Ap Biology Diffusion And Osmosis Lab Answers

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