

Diffusion Pre-Lab Questions

Data Chart

	Initial Contents	Solution Color		Presence of Glucose	
		Initial	Final	Initial	Final
Bag	H ₂ O & Corn Starch				
Beaker	H ₂ O & IKI				

If glucose was added to the bag, what would be expected to occur if you learned that glucose is permeable to the plastic bag?

Analysis

1. Which substance(s) are entering the bag and which are leaving the bag? What experimental evidence supports your answer?
2. Explain the results you obtained. Include the concentration differences and membrane pore size in your discussion.
3. Quantitative data uses numbers to measure observed changes. How could this experiment be modified so that quantitative data could be collected to show that water diffused into the dialysis bag?
4. Based on your observations, rank the following by relative size, beginning with the smallest: glucose molecules, water molecules, IKI molecules (Iodine potassium-iodide), membrane pores, starch molecules.
5. What results would you expect if the experiment started with a glucose and IKI solution inside the bag and only starch and water outside? Why?
6. What is water potential? What are the two equations associated with water potential?
7. Draw the experimental setup for Part A of the lab in the space provided. Complete the following chart as it relates to the experimental setup

	Dialysis Tubing Bag	Water Solution
High / Low Solute concentration		
High / Low Water concentration		
Hypertonic / Hypotonic		
High / Low Water potential		
Direction of water movement		

Hypothesis: Write a statement to describe the relationship between the amount of sucrose in the bag and the change in mass when placed in water.