

Name _____

Date _____ Period ____

Lab: **Diffusion** across a Membrane

Pre-lab Questions

Introduction

1. How do materials get into the cell? What cell part do materials have to cross?

2. Key Vocabulary:

Diffusion	
Definition	Visual
	→
	before after

3. Based on what you have already heard about membranes, make a prediction about how much a membrane lets through. Here are your choices:

-Permeable—allows ALL molecules pass through the membrane

-Impermeable—does NOT allow molecules to pass through the membrane

-Semi-permeable—allows some molecules pass through the membrane and blocks other molecules.

**Explain your choice:

Getting ready to test your prediction:

4. Each team of 4 will have a different setup for the lab. Here are the possibilities: circle yours

*Sugar and water

*Salt and water

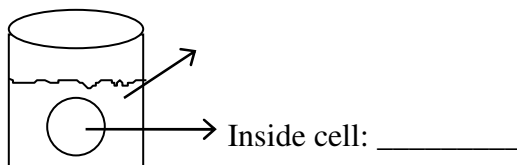
*Starch and iodine

*Food coloring and water

5. Plan the initial setup of the lab. The team will set up 2 beakers. Sketch how you will set this up below.

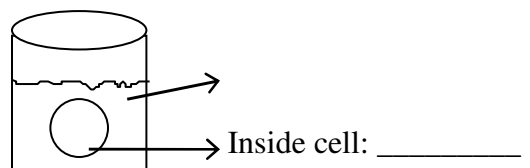
Beaker A

Setup by: _____



Beaker B

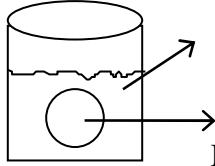
Setup by: _____



Day 2 Work: Analysis & Final Results

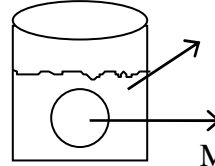
6. Use color to show any change that may have occurred in the above set-ups.

Beaker A



Mass of cell: _____

Beaker B



Mass of cell: _____

7. In Beaker A, which molecule(s) were able to diffuse through the membrane?

How can you tell?

8. In Beaker B, which molecule(s) were able to diffuse through the membrane?

How can you tell?

9. Why is it important to have both beakers to prove which type of membrane the dialysis tubing is?

Conclusions

10. What type of membrane is the dialysis tubing? How do the results from beaker A and B support this conclusion?

11. How does this experiment related to cells? How can this lab be used to better understand how cell membranes function?