

Name _____

Date _____

Period _____

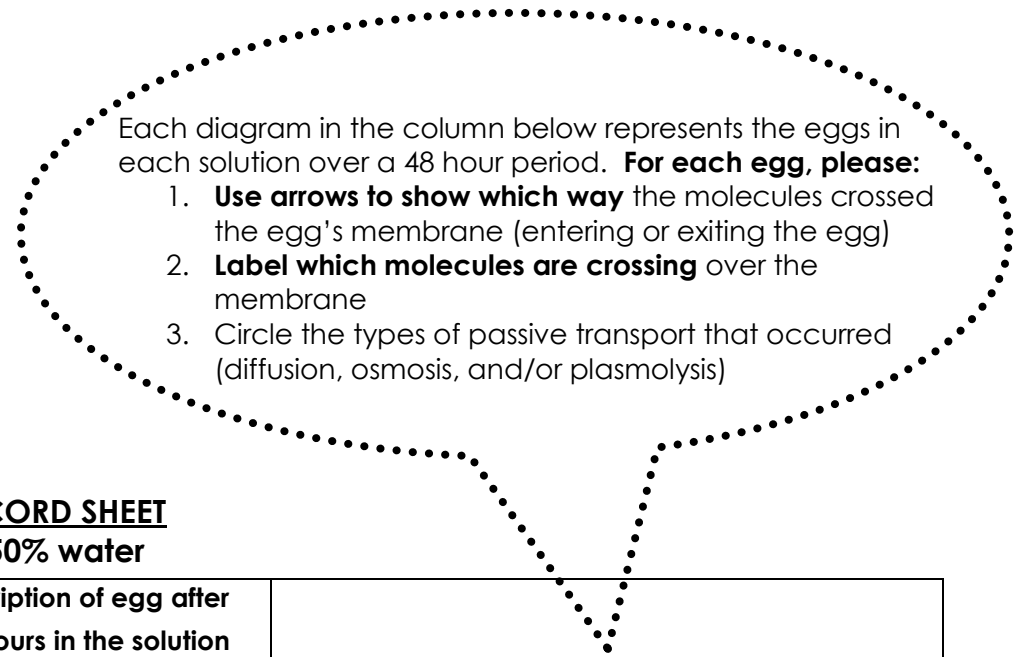
Background Information: **NOTE: These eggs are very fragile - you may look, but don't touch without permission!**

In this lab, we are using our shell-less eggs to represent cells. The outside "skin" is like the cell membrane; the yellow yolk is like the nucleus; and the clear liquid (the "white") is like the cytoplasm. Our **two main purposes** are to learn more about the factors which influence the materials passing through a cell membrane and to gain a better understanding of the words **diffusion**, **osmosis**, and **plasmolysis**. Our "cells" will be placed in a variety of solutions and observed over the next few days. You will keep a detailed record of the changes which occur in each egg in the data table below.


Pre-Lab Work




We want to know if materials are moving **into** or **out of** our "cells". **You have two tasks before you begin the lab:**



- Using the background information above, discuss with your lab partners **what kinds of changes in our "cells" would be evidence** that molecules had either moved into or out of the "cells".
- If an **egg is about 50% water**, find which of the solutions (in the first column below) will actually cause the changes you discovered in your group. Then in the prediction column record your results, any other changes to the eggs you think will occur, and explain why the changes will happen.



EGG LAB RECORD SHEET
The egg is 50% water

Solution & Mass of Egg BEFORE Experiment	<u>Prediction</u> 1. Record group results from task #1 2. Include any other changes to the eggs you think will occur 3. Explain why the changes will happen	Description of egg after 48 hours in the solution <u>RECORD THE MASS IN GRAMS (g)</u>	Record what happened with a drawing
A Water (100% H₂O) Mass = _____ g		Mass = _____ g	 diffusion osmosis plasmolysis

Solution & Mass of Egg BEFORE Experiment	<u>Prediction</u> 4. Record group results from task #1 5. Include any other changes to the eggs you think will occur 6. Explain why the changes will happen	Description of egg after 48 hours in the solution <u>RECORD THE MASS IN GRAMS (g)</u>	Record what happened with a drawing
B Vegetable oil (40% H₂O) Mass = _____ g		Mass = _____ g	 diffusion osmosis plasmolysis
C Coca Cola (90% H₂O) Mass = _____ g		Mass = _____ g	 diffusion osmosis plasmolysis
D Corn syrup (20% H₂O) Mass = _____ g		Mass = _____ g	 diffusion osmosis plasmolysis

<p>E Red Coloring (95% H₂O)</p> <p>Mass = _____ g</p>		<p>Mass = _____ g</p>	 <p>diffusion osmosis plasmolysis</p>
<p>G Alcohol (70% H₂O)</p> <p>Mass = _____ g</p>		<p>Mass = _____ g</p>	 <p>diffusion osmosis plasmolysis</p>

Just to make sure you really understand the three terms below, please define them...

Diffusion is... _____

Osmosis is... _____

Plasmolysis is... _____