## Date Period Name **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: 1. Using the background information above, discuss with Each diagram in the column below represents the eggs ir your lab partners what kinds of changes in our "cells" each solution over a 48 hour period. For each egg, please: would be evidence that molecules had either moved 1. Use arrows to show which way the molecules crossed into or out of the "cells". the egg's membrane (entering or exiting the egg) 2. If an egg is about 50% water, find which of the solutions 2. Label which molecules are crossing over the (in the first column below) will actually cause the membrane changes you discovered in your group. Then in the 3. Circle the types of passive transport that occurred prediction column record your results, any other (diffusion, osmosis, and/or plasmolysis) 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 & Prediction Description of egg after Mass of Egg 1. Record aroup results from task #1 48 hours in the solution BEFORE 2. Include any other changes to the eggs **RECORD THE MASS IN Record what happened** Experiment vou think will occur GRAMS (g) 3. Explain why the changes will happen with a drawing A Water (100% H<sub>2</sub>O) $Mass = \____g$

Mass = \_\_\_\_\_ g

diffusion osmosis

plasmolysis

Life Science – Egg Diffusion/Osmosis Lab - Chart

Binder Page #

Solution & Mass of Egg <u>BEFORE</u> Experiment	<ul> <li><u>Prediction</u></li> <li>4. Record group results from task #1</li> <li>5. Include any other changes to the eggs you think will occur</li> <li>6. Explain why the changes will happen</li> </ul>	Description of egg after <b>48</b> hours in the solution <u>RECORD THE MASS IN</u> <u>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% H <sub>2</sub> O)			
Mass = g			
		Mass = g	diffusion osmosis plasmolysis



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

Diffusion is	
Osmosis is	
Plasmolvsis is.	