

**SB1. Obtain, evaluate, and communicate information to analyze the nature of the relationships between structures and functions in living cells.**

*d. Plan and carry out investigations to determine the role of cellular transport (e.g., active, passive, and osmosis) in maintaining homeostasis.*

**Egg Osmosis Lab**

**Learning Target** 1. I can diagram cells in solutions and analyze the flow of water and solutes across membranes. (SB1d)

**Materials** - 2 eggs - 2 plastic cups - Vinegar - mass scale - tap water - salt  
- tape measure

**Directions**

- Day 1** - Get one plastic cup and put both of your eggs in it.
- Day 1** - Pour the vinegar into a plastic cup until it completely covers the eggs (a small part of the top egg may still be showing but it's fine). Label your cups with your group members names, cover the cup with aluminum foil and let the eggs sit for **2 days**.
- Day 2** - Remove the eggs from the vinegar and pour the vinegar into the sink. Remove any remains of the egg shell by washing the eggs under low water.
- Day 2** - Take each egg and measure the circumference (waist) of the egg in centimeters. Record your data.
- Day 2** - Take a cup and put it on top of the mass scale and press tare which will set the mass to 0 g. Next place one of the eggs inside of it and write down the mass of the egg in your data table. Get another cup for the second egg and repeat the process.
- Day 2** - Now put egg A in a hypotonic solution by pouring tap water over the egg until it is completely covered with water. Put egg B in a hypertonic solution by pouring a mixture of salt water over it until it is completely covered. Make the salt water solution by adding two teaspoons of salt to 200 mL of water. Let the eggs sit overnight.
- Day 3** - Take each egg and measure the circumference (waist) of the egg in centimeters. Record your data.
- Day 3** - Take each egg out of it's cup and mass the eggs again like you did in step 4. Record your data.

Egg	Liquid used – X axis	Circumference in cm		Weight in grams – Y axis		Percent weight change – New mass/Original mass = % change
		Before soak	After soak	Before soak	After soak	
Egg A	Tap Water	Before soak	After soak	Before soak	After soak	
Egg B	Salt Water	Before soak	After soak	Before soak	After soak	

