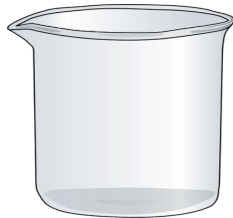


*Directions: Read and annotate the passage below. Then read each station and answer the questions.*

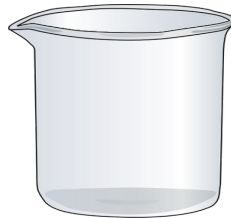
Cells must maintain **homeostasis**, or a balanced internal environment, in order to function. Today we will analyze what happens to a cell when it is placed in different external environments. Tomorrow, we will understand how cells must control the movement of substances and water in order adjust to external environment and maintain homeostasis.

Station 1: Eggsperiment

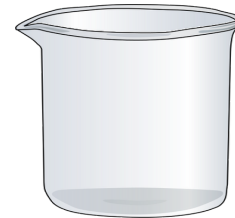
1. Draw and label each beaker below.



Control



Experimental-1



Experimental-2

2. Make qualitative observations comparing the three eggs. In other words, what qualitative differences do you notice in the eggs.

\_\_\_\_\_

\_\_\_\_\_

3. After removing the shells, the mass of each egg was 50 grams. Now that the eggs have been exposed to differing external conditions (vinegar, water, and honey), make quantitative predictions about the current mass of each egg.

\_\_\_\_\_

\_\_\_\_\_

4. Predict why the water caused the mass of the egg to change. \_\_\_\_\_

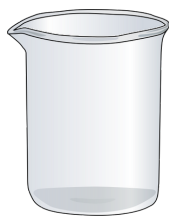
\_\_\_\_\_

5. Predict why the honey caused the mass of the egg to change. \_\_\_\_\_

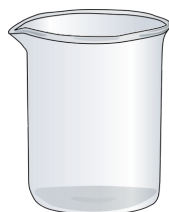
\_\_\_\_\_

Station 2: Dialysis Tubing

1. In the “Before” beakers, draw how each was set up based on the description. In the “After” beakers, draw how each beaker currently looks.

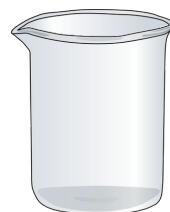


Before

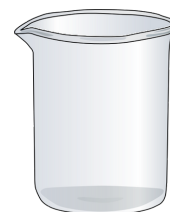


After

Beaker A



Before



After

Beaker B

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

2. Recall that when starch and iodine come into contact, a color change occurs. Based on your observations, explain what solution moved, and the direction it moved, in order to contribute to the color change in each beaker.

a. \_\_\_\_\_

b. \_\_\_\_\_

3. Predict a property of dialysis tubing that allowed for the color changes in each beaker.

\_\_\_\_\_  
 \_\_\_\_\_

Station 3: Membrane Model

1. What objects were able to freely pass through the membrane? \_\_\_\_\_

2. What objects were not able to pass through the membrane? \_\_\_\_\_

3. Based on this model, circle the term that best describes a cell membrane.

Impermeable

Selectively Permeable

Fully Permeable

Explain why you chose this term: \_\_\_\_\_

4. Make a prediction for what this means about different molecules that come into contact with a cell membrane.

\_\_\_\_\_

Making Connections Between Stations

Station	Movement Through the Membrane		Explanation
	What?	Where?	
1		Experimental-1 -	
		Experimental-2 -	
2		Beaker A-	
		Beaker B-	
3			