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| Biology Lab - EGG-cellent Diffusion and Osmosis Lab | Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Materials:** 1 raw egg that has soaked in white vinegar, corn syrup, and distilled water

**Procedure:**

**Day 1:**

1. Obtain one egg that has been soaked in vinegar overnight from your teacher.
2. Obtain one weighing boat from your teacher. You will need to use this weighing boat for the entire lab. Write your names on the boat with a Sharpie© marker.
3. Record quantitative observations such as mass on your data chart in box A.

Make note of which balance you use today. You will want to use the same balance for this entire experiment.

1. Place your egg in a beaker labeled with ALL lab partners names in your group.
2. Record your qualitative observations in the chart below in box 1.
3. Now, add 125mL of corn syrup to your group’s beaker. Gently place the egg in the corn syrup.
4. Place the egg in the beaker in the designated spot for your class and clean up your materials and work area.
5. Wash your hands with soap and water.

**Day 2:**

1. Gently remove your egg from the corn syrup. Measure the amount of corn syrup left in the beaker and record in box B. Wash your egg thoroughly, but gently!
2. Record the mass of your egg and record in box C.
3. Record your qualitative observations in the chart below in box 2.
4. Thorouhly rinse out your beaker with soap and water.
5. Pour 125mL of distilled water in your clean beaker. Add your egg gently.
6. Place the egg in the beaker in the designated spot for your class and clean up your materials and work area.
7. Wash your hands with soap and water.

**Day 3:**

1. Gently remove your egg from your beaker. Measure the amount of distilled water left in your beaker and record in box D. Pour the remaining water down the sink.
2. Record your qualitative observations in box 3 of the chart below.
3. Find the mass of your egg and record in box E.
4. Throw your egg in the trashcan.

**Quantitative Observation Chart**

|  |  |  |  |
| --- | --- | --- | --- |
| Contents of Beaker | Amount Placed in the Beaker | Amount Present AFTER the egg was removed | Mass of Egg (in grams) |
| **Egg on the First Day** | ------- | --------- | **A** |
| **Syrup** | 125mL |  |  |
| **Water** | 125mL | D | E |

**Qualitative Observations**

|  |  |
| --- | --- |
| **Day of Lab** | **Observations** |
| **Day 1 - Egg after it has set in vinegar overnight** | **1** |
| **Day 2 – Egg after it has set in corn syrup overnight** | **2** |
| **Day 3 – Egg after it has set in distilled water**  **Overnight** | **3** |

**Things to think about for the Lab Quiz…**

1. What does the egg represent?
2. Was there more or less liquid in the beaker after the egg had been in the syrup over night? Why do you think this is so?
3. Was there more or less liquid in the beaker after the egg had been in the water over night? Why do you think so?
4. The movement of a **substance** from greater concentrations to lesser concentrations is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. **Water** diffuses across a membrane through a process known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. A solution that has MORE SOLUTE outside the cell, and causes a cell to **shrivel** is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution.
   1. What is an example of this type of solution in this lab? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. A solution that has LESS SOLUTE outside the cell, and causes a cell to **swell/burst** is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution.
   1. What is an example of this type of solution in this lab? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_