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

**Gummy Bear Osmosis**

**Materials:**

Water

Salt Water

Vinegar

Baking Soda

4 Gummy Bears

4 Plastic Cups

**Procedure:**

1. Label each of your four plastic cups: one with water, one salt water, one vinegar and one baking soda.
2. On each cup, add a label for your class period and your group names/number.
3. Fill up each labeled cup ¾ of the way full with the appropriate solution.
4. Place 1 gummy bear in each cup. Make sure it is fully submerged in the liquid.
5. Place your cups in the designated area assigned by your teacher.

**Identify each of the following variables in the lab:**

Independent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Control Variables (at least 3): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Write a hypothesis for each different independent variable in your experiment:**

1.

2.

3.

4.

**Data:**

Draw a picture of your gummy bear and write qualitative observations in the table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Vinegar | Salt Water | Tap Water | Baking Soda |
| Day 1 |  |  |  |  |
| Day 2 |  |  |  |  |

As a class we will measure the different masses of some gummy bears. Record our data below:

|  |  |
| --- | --- |
| **Solutions** | **Mass (g)** |
| Control (regular gummy bear) |  |
| Tap Water |  |
| Salt Water |  |
| Vinegar |  |
| Baking Soda |  |

**Analysis:**

1. Was your hypothesis correct? Why or why not?
2. What is osmosis?
3. What moved across the membrane?
4. Why did some gummy bears gain mass?
5. Why did some lose mass?
6. When you sweat, is the water that comes out pure water?
7. What is a hypotonic solution?
8. What is a hypertonic solution?
9. What organelle is most closely involved with osmosis?