*Observing Osmosis*

In this activity, you will investigate the affect of water on objects, using gummy bears.

**Question: What effect, if any, does soaking Gummy Bear candies in water have on the size of the candy?**

1. Prediction: Write your prediction in your science journal based on the knowledge you already have and what you know what gummy bears are made out of.

2. Before you continue, read the activity and design a data-collection table in your notebook.

3. After the class discussion, write down a data collection table in your journal to fill in as you continue.

4. Design a procedure that will help you answer the question. You may use the following materials: beakers, gummy bears, water, filter paper, sugar, digital scale, and spatula.

5. Calculate the following percent changes in the size of the candy and record in your notebook:

 % change in height

 % change in width

 % change in mass

 \*\*Percent change = (After soaking measurement - Before soaking measurement/ Before soaking measurement) x 100

 \*\*Make sure to label your answer with correct units

6. Graph the percent changes on a bar graph using Microsoft Excel.

7. Look over the following information and use the vocabulary words to answer the questions below.

Molecules are in constant motion and tend to move from areas of higher concentrations to lesser concentrations.

**Diffusion** is defined as the movement of molecules from an area of high concentration to an area of low concentration.

The diffusion of **water molecules** through a selectively permeable membrane is known as **osmosis**.

**Selectively permeable** means that some molecules can move through the membrane while others cannot.

Movement through membranes is called **transport**.

Diffusion and osmosis are **passive** forms of transport; this means that they do not need energy to move from areas of high concentration to areas of low concentration.

**Active transport** requires energy to transport molecules from low concentration to high concentration.

1. What happened to the candy after soaking in water overnight?
2. Why did you get these results?
3. What do you think would happen to the candy if you let it soak in a different solution? Explain your answer. **Set up the experiment, including taking the initial measurements and adding another data table in your notebook.**
4. Write a scientific explanation that states the results of your investigation. Include a claim, evidence, and reasoning.
5. List any questions you still have.

8. After the gummy bear has spent the night in your solution water, fill out your data table.

9. Write your findings in your lab notebook. Why do you think it reacted the way it did? What other solutions might be interesting to try putting a gummy bear in?

