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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Diffusion | | | | | |
|  | Objective: Learn about diffusion. |  | Observe: Conduct an experiment that shows diffusion. |  | Apply: Be able to explain diffusion.  Identify scenarios of diffusion in the real world. |

**Introduction:**

1. Match the following definitions to the vocabulary words. Draw a line connecting the two words.

Concentration is higher than the other solution

**Membrane**

**Diffusion**

The movement of anything from a high concentration to a lower concentration

Concentration is lower than the other solution

**High concentration**

a layer of cells that act as a boundary

**Low Concentration**

1. Draw arrows to indicate the direction of diffusion in each of the following cases: (The rectangle is the cell membrane)

**Plan and Carry out:**

In this experiment you will explore diffusion in organisms. You will do this by observing the taste of celery when it is placed in grape juice.

**Procedure**

1. Taste and notice the color of celery and record in data table
2. Make a prediction on what will happen to the color and taste after the celery is in the grape juice.
3. Fill a container or cup half full of warm water
4. Add a cup full of grape juice to water and observe what happens

1. Place celery into container with grape juice and water mixture for 30 minutes
2. Record taste and color of the celery in data table.

**Data Table:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Celery Before** | **Prediction** | **Celery After (30 min)** |
| **Color** |  |  |  |
| **Taste** |  |  |  |

**Analyze Data:**

1. What happened to the water when the grape juice was added?
2. Was your prediction correct? Explain what happened in the experiment. Did your celery taste different then you expected?
3. Using the data table above, draw what happened to your celery. What direction did the grape juice go?

**Explain**

Why did the celery taste like grape juice and turn purple?

What do you think would happen if you wrapped the celery in plastic before placing it in the juice?

If the plants you eat everyday were watered with polluted water, what do you think they would taste like?

With what you learned today why is it important to keep our water clean and free of harmful substances?