**MITOSIS LAB EXPERIMENT REPORT**

**HAKIIM NORMAN**

**INTRODUCTION**

This lab experiment is done to prove the presence of osmosis inside a cell. Osmosis is a theory/process where molecules are able to pass through certain membranes to equal things out inside and outside the cell. Osmosis is a way of equalizing (homeostasis) things from a less concentrated solution into a more concentrated one.

This experiment is done to prove the process of osmosis. In this experiment, two potatoes with approximately the same size and weight would be submerged in two different containers each containing two different types of liquid. One of the container would be filled with mineral water, and the other beaker filled with salt water. After a period of time, we would then be able to recognize whether osmosis is present by looking at their weight, color, texture and etc. If the theory of osmosis is correct, the lower concentration of water inside the cell would absorb the surrounding water outside the cell thus adding some weight to the piece of the potato. Due to that thought, me and my group mates made that as our hypothesis.

**PROCEDURE:**

Tools:

* 2 Beakers
* Measuring scale
* Teaspoon

Materials:

* A potato
* Water (300ml in total)
* Salt

(2 teaspoon)

**Steps**

1. Take out 2 beakers.
2. Fill both of the beakers with 150ml of water.
3. Take out 2 teaspoons of salt and sprinkle it all over ONE of the beaker.
4. Slice the potato into 2 equal pieces, both weighing 45 grams.
5. Place one slice of potato in each of the beaker.
6. Flip both potato halves over and wait for 45 minutes.
7. Observe and compare the mass of the potatoes.

**Hypothesis**

If the concentration of the water increases, it will make the potato obtain more water molecules until the equilibrium is reached. Then it will increase the mass of the potato by a large amount.

**RESULTS**

Here are the results of the experiment done by all of our classmates.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Potato in Freshwater Mass (Before) in grams** | **Potato Freshwater Mass (After) in grams** | **Potato Saltwater Mass(Before) in grams** | **Potato Saltwater Mass (After) In grams** |
| **1** | 23.2 | 23.7 | 23.2 | 22.3 |
| **2** | 6.4 | 6.8 | 6.4 | 5.1 |
| **3** | 28 | 30 | 28.7 | 27 |
| **4** | 34 | 34.2 | 34 | 32 |
| **5** | 25 | 28.5 | 25 | 23.7 |
| **6** | 28.1 | 28.7 | 28.2 | 28.6 |

**CONCLUSION**

As shown in the data, most of the results shows that submerging a piece of potato under freshwater adds an amount of weight into the potato. In the other hand, submerging a piece of potato under salt water takes away a significant amount of weight from the potato.

The concentration of water surrounding the cell is much higher compared to the concentration of water inside the cell, thus making the cell absorbing the water and gain more weight. On the other hand, when the potatoes are put inside saltwater, the cells in the potato has a higher concentration of water compared to the concentration of water surrounding it. Thus making the cell release water and decrease in weight. This concludes the presence of osmosis inside the cell membranes of potatoes and answers our hypothesis which is “Higher concentration of water would make the lower concentration of water inside a cell absorb the water from the outside”

Though most of the results are similar, there is one outlier present in the data table. There is one result that is different than the others. In group 6’s experiment, rather than losing weight when submerge under saltwater, the potato gained weight even though it was submerged under saltwater. That most likely happened because the amount of salt that was added into the mixture was too little or that the salt was not properly mixed before putting the potato inside the liquid. Things like that could be avoided by making sure the procedure is correct and is done properly without rushing it.