Jigme Sherpa Human Anatomy and Physiology 1

Osmosis and Diffusion Lab Report

Abstract

In this experiment you will observe Osmosis and Diffusion of water through selectively permeable members.

Materials/Methods

Materials:

- ♦ 4 Beakers
- ♦ NaCl
- ♦ Glucose
- ♦ Sucrose
- Benedict's solution
- ◆ AgNO3
- Timer
- 8 test tubes
- 4 dialysis tube
- Scale

Methods:

- Fill each sack(dialysis tube) with 20ml of 20% glucose, 40% glucose, 10% sodium chloride and 40 % sucrose respectively.
- Fill each beaker with distilled water, 40% glucose solution, distilled water and distilled water respectively.
- After filling the sack with the respective solution, tie it up, wipe it down and note the initial weight.
- The sacks are placed in the four separate beakers that have the different solution. After leaving the sacks in the beakers for 45 minutes, they were then taken out, wiped clean and the weight was recorded once again.
- Place each sample into separate test tubes labeling the sample from the sacks 1A through 4A and the sample from the beakers 1B through 4B.
- Then, add benedict's solution and place the test tubes in boiling water to observe its color change.

Data

Activity 3: Experimental Data on Diffusion and Osmosis Through Nonliving Membranes						
Beaker	Contents of sac	Initial weight	Final weight	Weight change	Tests— beaker fluid	Tests— sac fluid
Beaker 1 1/2 filled with distilled water	Sac 1, 20 ml of 240% glucose solution	7.1g	8.0g	0.9g	Benedict's test: Posi Hive	Benedict's test: Positive
Beaker 2 ½ filled with 40% glucose solution	Sac 2, 20 ml of 40% glucose solution	6.9 ₈	6.9g	Og	Positive	Positive
Beaker 3 1/2 filled with distilled water	Sac 3, 20 ml of 10% NaCl solution	7.2g	7.8g	0.6g	AgNO3 test: Neyworve	Positive
Beaker 4 1/2 filled with distilled water	Sac 4, 20 ml of 40% sucrose solution	7.1g	8.0g	0.9g	Benedict's test: Posi five	Positive

Conclusion

From the data, we can conclude that Osmosis has occurred, you can see that final weight column and see that there is a change in weight showing that water molecules in the breker have diffused into the sack. In sack 1,3,4 you can observe a hypertonic reaction and in sack 2 where you had 40% glucose and the breaker also had 40% glucose you can observe a Isotonic reaction and no change in weight. In the Benedict's test for sugar you can tell that there is a presence of it due to the color change in test tubes 1,2,4 but in test tube 3 since you have NaCl(sodium) there is no presence of sugar.