

## Title Lab Osmosis and diffusion

### Experiment 1

#### Abstract

In this experiment, the movement of molecules in each solution had been observed and collected. This was done so that the weight of each sack could be calculated and determined that the flows of passive transport through model membrane system.

#### Experiment Procedure

1. Each sack was filled with 20ml of 20% glucose, 40% glucose, 10% Sodium Chloride and 40% sucrose respectively.
2. Each beaker was added distilled water, 40% glucose solution, distilled water and distilled water respectively.
3. After filling the sacks, tie the free end, wipe and take the initial weight of each sack.
4. Place the sack in the respective beaker for 45 minutes
5. Take out the sack, wipe the surface and weight each sack again.
6. The observation data was collected and shown in the table below.

#### Data Results

Weight of sack (gm)	S1	S2	S3	S4
At zero time	7.1	6.9	7.2	7.1
After 45 minutes	8.0	6.9	7.8	8.0
Change in weight	+0.9	0	+0.6	+0.9

#### Conclusion

After the observation, there were some differences of solution concentration between inside the sacks and the beakers, the weight of S1, S3 and S4 showed the movement of water from an area of high concentration to an area of low concentration. Osmosis had occurred. With lower concentration of water and higher concentration of solute inside those three sacks showed hypertonic while diluted solutions in the beakers are hypotonic solution. However, S2 had no change in weight because the concentration of inside and outside was the same. Isotonic had occurred.

**Experiment 2** Test for sugar and sodium chloride (NaCl)**Abstract**

In this experiment, the color change in each test tube was observed in order to detect sugar and sodium chloride. This was done so that the color of each test tube is yellow, brown or green could be determined that there is sugar is present. If the color of a test tube is milky white precipitate, salt is present.

**Experiment Procedure**

1. Add 1 mL of sample from each sack and place into each test tube #1A,2A,3A,4A
2. Add 1 mL of sample from each beaker and place into each test tube #1B,2B,3B,4B
3. Iodine solution was added into each sample and mixed well.
4. The test tubes were put in beaker with boiling water
5. The observation of change in color was collected.
6. Repeat step 1 and 2 with silver nitrate solution and mixed well.
7. The observation of change in color was collected.

**Data Results**

## Test for Sugar

1A	2A	3A	4A	1B	2B	3B	4B
Y	Y	N	Y	N	Y	N	N

## Test for sodium chloride (NaCl)

1A	2A	3A	4A	1B	2B	3B	4B
N	N	Y	N	N	N	N	N

Y=positive N=negative

**Conclusion**

The test tube 1A,2A,4A and 2B detected sugar in the solution while the test tube test tube #3A that added silver nitrate solution showed milky white color which determined salt was present.