

BIO3211

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Objective

To notice and recognize diffusion and osmosis through nonliving films. By using a test utilizing containers, sacks, and various kinds of concentrated arrangements.

Materials needed

1. Test Tubes
2. Distilled Water
3. Weight Scale
4. Silver Nitrate
5. Benedict's Solution
6. 20% Glucose Solution
7. 40% Glucose Solution
8. 40% Sucrose Solution
9. 4 Sacs
10. Small Funnel
11. 25ml Graduated Cylinder
12. Wax Marking Pencil
13. Fine twine or Tubing Clamps
14. Four Beakers (250ml)
15. 10% NaCl

Experiment Steps

1. Label beakers 1-4. Fill beakers 1, 2, and 3, with distilled water halfway. Beaker 2 is to be half filled with 40% glucose solution
2. Label each sac 1-4. Sacs 1 and 2 must be filled with 20ml of 40% glucose solution. Sac 3 must be filled with 10% NaCl solution. Sac 4 to be filled with 40% sucrose solution.
3. Weigh and record initial weight.
4. Place sacs in each beaker matching the same number. Submerge each sac in its beaker and leave them there for 45 minutes.
5. Once 45 minutes have passed, remove sacs from the beaker and then let each sac dry. Once dried, record the final weight.
6. Label the 4 test tubes as 1A, 1B, 1C, and 1D. Fill each test tube with 10ml of their respective sac solution.
7. Label the 4 test tubes as 2A, 2B, 2C, and 2D. Fill each test tube with 10ml of their respective beaker solution.

8. Use Benedict's solution in test tubes 1A, 1B, 2A, 4A, and 4B.
9. Place said test tubes in boiling water and observe the color change of the content in each test tube.
10. Add Silver Nitrate to test tubes 3A and 3 B and observe change.

Beaker	Sac Content	Initial Weight	Final Weight	Weight Change	Beaker Fluid	Sack Content
1(1/2 Distilled Water	20ml 20% Glucose	7.1g	8.0g	0.9g	brown	brown
1/2 40% Glucose solution	20ml 40% Glucose	6.9g	6.9g	0.0g	Pos	Pos
1/2 Distilled Water	20ml 10%NaCl	7.2g	7.8g	0.6g	AgNO3 Milky white	AgNO3 Milky white
1/2 Distilled Water	20ml 40% Sucrose	7.1g	7.1g	0.9g	Neg	Pos

Survey the outcome we can see that dispersion and assimilation has happened in our investigation. The trial works really hard of showing how assimilation can utilize water atoms to diffuse penetrable films. By doing so water particles can move from a low to high fixation region. We can see assimilation happened in sacs 1, 3, and 4 in light of the fact that their weight expanded after they were lowered. The heavier weight demonstrates that water particles diffused into the sac. The investigation likewise showed that sac 2 gave no indications of dissemination or assimilation in light of the fact that there was no weight change, which means there was no change in one or the other arrangement. The outcomes likewise showed that

dissemination of glucose happened from the sac to the receptacle in measuring glasses 1 and 2. Our examination likewise introduced that measuring glass 4 couldn't diffuse through the sac into the container. This is appeared by the shading change brought about by the sucrose that was more prominent than the glucose. Which means sucrose was truly greater than the pores in the sac and couldn't diffuse. Finally, our information shows that test tubes 3A and 3B had shaped a white smooth arrangement. This addresses that sodium chloride diffused out of the sac and into the measuring utensil.