

Osmosis lab report assignment



Osmosis Lab Report Hypothesis: Osmosis will occur when there is an uneven distribution of solute in a solvent. The higher the solute in solvent, then there will be a higher rate of osmosis through the diffusion gradient forming a hypertonic or hypotonic solution. Solvent with equal or no solute forms an isotonic solution. Materials: Distilled water, sucrose, dialysis tubing, string, 250 ml beaker. Procedure: To demonstrate and isotonic solution we needed 3 inches of dialysis tubing. We tied off one end of the dialysis tubing to create a bag, filled it with distilled water, and tie of other end to close.

The bag is carefully blotted to remove any water spilled during the filling and then weighed and recorded for an initial mass. Then we filled a 250 ml beaker with only distilled water. Immerse the bag in the beaker of distilled water and let stand for 30 minutes. After 30 minutes we removed the bag from beaker and carefully blot excess water to determine final mass. No difference in mass shows that no passage of water through dialysis membrane resulting in an isotonic solution. To demonstrate a hypertonic solution we used another 3 inch dialysis tubing.

We tied one end of the dialysis tubing to create a bag. Fill it with distilled water and 3 drops of sucrose. We tied off the other end leaving sufficient space for expansion of contents in the bag. The bag is carefully blotted to remove any water spilled during the filling and then weighed and recorded for an initial mass. Then we filled a 250 ml beaker with only distilled water, and immersed the bag in the beaker and let stand for 30 minutes. After 30 minutes we removed the bag from beaker and carefully blot excess water to determine final mass.

An increase in mass after weighing shows the passing of water inside dialysis tubing from low concentration (beaker w/ only water) to higher concentration (bag w/ sucrose) of solute. Finally, to demonstrate a hypotonic solution we used a 3 inch dialysis tubing. We tied one end of the dialysis tubing to create a bag. We filled it with only distilled water and tied off the other end. The bag is carefully blotted to remove any water spilled during the filling and then weighed and recorded for an initial mass.

Then we filled a 250 ml baker with distilled water and 3 drops of sucrose. Immerse bag in the beaker and let stand for 30 minutes. After 30 minutes we remove the bag from the beaker and carefully blot excess water to determine final mass. A decrease in mass after weighing shows the passing of water out of the dialysis tubing to the beaker. Conclusion: the experiment of isotonic, hypertonic, and hypotonic solution demonstrate osmosis as the passage of solvent from a more dilute to a more concentrated solution through a membrane that is more permeable to water than to a solute.