

Dialyzing solutions via synthetic membrane

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Science 10H

BACKGROUND: The membrane of a cell allows materials to move into and out of the cell selectively. In this lab, semi-permeable dialysis tubing is used to imitate the membrane of a cell. The tubing will only allow certain chemicals to pass through it.

PROBLEM : What chemicals can pass through semi-permeable dialysis tubing?

HYPOTHESIS: If the semi permeable dialysis tubing is replicating a biological membrane, then the particles smaller in size will filter out correspondingly to the bigger particles, because of the change in polarity as well as particle size.

VAR

Controlled (3): Humidity, temperature, beaker size and shape

Manipulated: testing mixtures in different aqueous solutions

Responding: Water Displacement / Height, Weight of water

MATERIALS:

Dialysis tubing Protein, salt, starch & sugar solution (premix) Beaker String Distilled Water

PROCEDURE: 1. Cut a 10 cm length of dialysis tubing 2. Soak tubing in water (and open it) 3. Tie one end with string (tightly, no leaking) 4. Fill with approximately 10 ml of premixed