The Grape Osmosis Lab

www.campbell.k12.ky.us/userfiles/11774/Classes/.../53%20The%20Grape%20Lab.do.

Purpose: To determine how osmosis occurs in hypotonic, hypertonic, and isotonic solutions.

Background information:

1. Osmosis is the diffusion of water from an area of high concentration to an area of low concentration.
2. Iso= equal, same
3. Hyper=over, above
4. Hypo= under, below

Hypothesis:.

Materials needed: 3 green grapes, 3 small cups, masking tape, 100 ml graduated cylinder, Salt, water, white grape juice, triple-beam balance, paper towel, glass stirring rod

Procedure:

1. Collect 3 small cups and label the 1st saltwater, the 2nd grape juice, and the 3rd water (use masking tape)
2. In the 1st one put 50 ml of water, 10 grams of salt and stir. (use paper towel to put salt on)
3. In the 2nd one put 50 ml of white grape juice.
4. In the 3rd one put 50 ml of water.
5. Find the mass of each grape individually and record which one will go in which cup.
6. Place one grape in each cup. (make sure you keep your grape weights straight)
7. Let set until the next class period. Make a hypothesis on how the lab should turn out.
8. Take out grapes carefully and dry off (be gentle and do not squish the grapes, and make sure once again to keep your grapes with the beakers they were in)
9. Find the mass of each grape and record.

Results:

Solution	Mass of grape before soaking in solution	Mass of grape after soaking in solution	Change in grape mass
Saltwater			
White grape juice			
water			

Analysis:

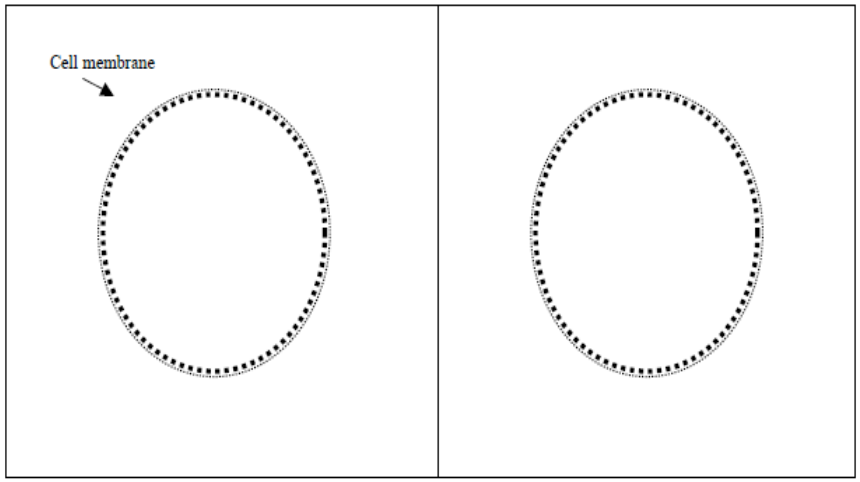
1. Identify which of the solutions you tested were hypotonic, hypertonic, or isotonic.

2. What effect would eating too much salt have on the human body?

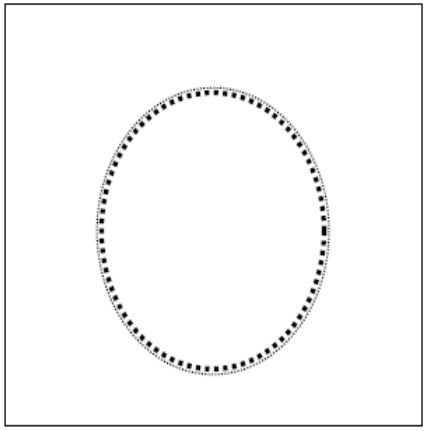
3. Please draw a diagram for each grape showing the movement of water between the grape and the solution.

△ sugar ● water movement of water ⟹

ISOTONIC HYPERTONIC



HYPOTONIC



Adapted from: http://londonsci.weebly.com/uploads/3/7/2/4/37242935/4.2_-_osmosis_lab_with_grapes.pdf

Balloon Diffusion Lab

Adapted from: https://www.flinnsci.com/api/library/Download/d38c19c446cc40d9b52270ae3187e268

Directions: Pick up each differently colored balloon one at a time and smell. Try to guess what smell is coming from the balloon.

Balloon Color	Smell

1. How do "smells" get out of the balloons? *Hint: Use your knowledge of diffusion and selectively permeable membranes.*