

Lesson 5: How Does Food Move In and Out a Cell?

Activity 5.3

Purpose

You have already seen water diffuse in and out of an onion cell through osmosis. In this investigation you will find out if glucose and starch can too.

Word Wall Words

Permeable: _____

Impermeable: _____

Semi-Permeable: _____

+ Safety

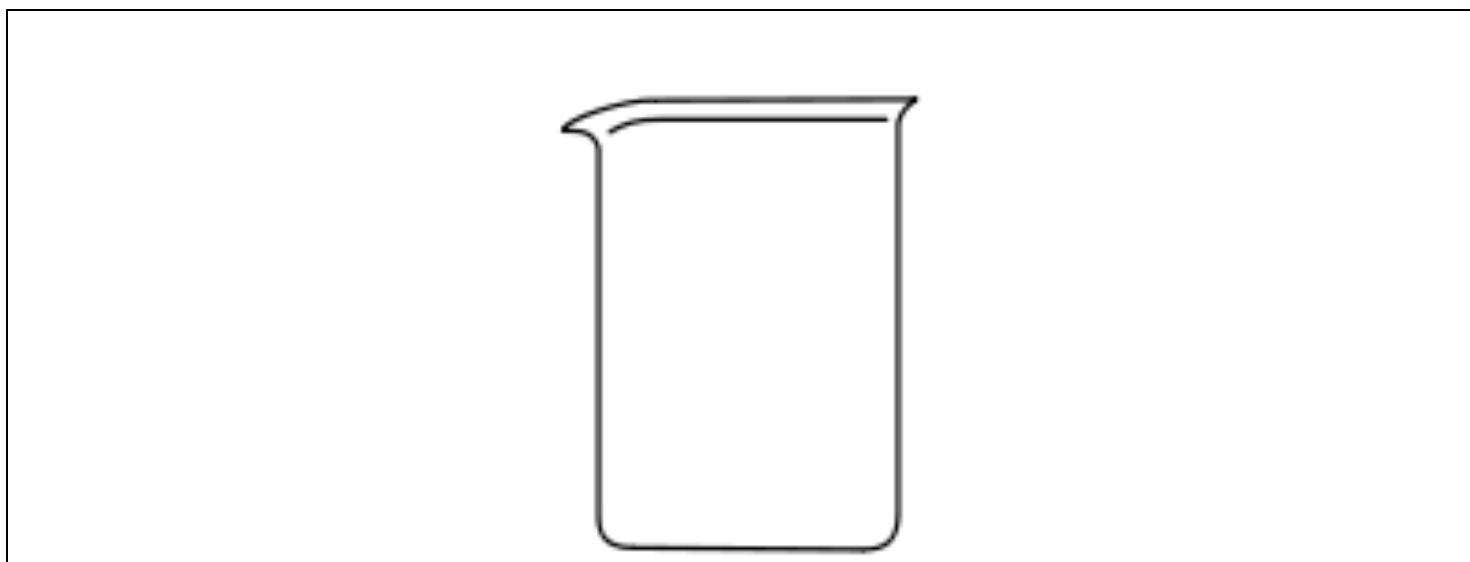
Wear goggles when using Benedict's solution, iodine, and working with the hot water bath. Handle the iodine carefully because it will stain hands and clothes.

Procedure

- 1.) Pick up a piece of dialysis tubing. Tie off one end **tightly** with dental floss. Through the open end, fill it with $\frac{1}{2}$ starch and $\frac{1}{2}$ glucose. Tie off the open end of the tube **tightly** with dental floss.
- 2.) Rinse off the cell model with lots of water to get rid of excess starch and glucose.
- 3.) Write your group's name and class period on a cup with marker. Fill the cup enough to submerge the cell model. Place the cell model in the cup of water and put the cup in the back of the room.

Diagram

Below, draw a diagram that shows the particles after you prepared the cell model on Day 1. Make a key for the following particles and draw them in the appropriate place: **water**, **starch**, and **glucose**.



Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

Testing Indicators:

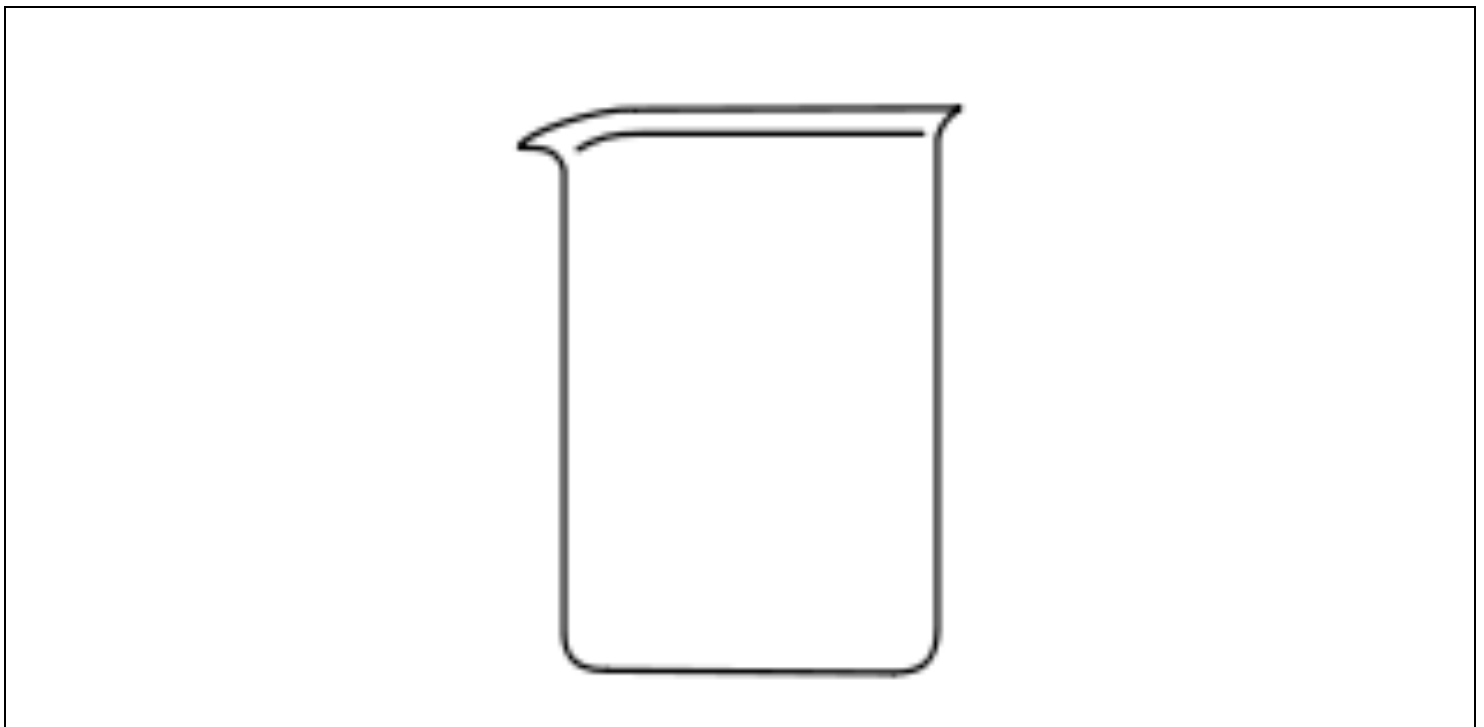
Benedict's solution tests for _____. If _____ is present the solution turns _____.

Iodine tests for _____. If _____ is present the solution turns _____.

The liquid in the cup tested (positive / negative) for starch and (positive / negative) for glucose.

Diagram

Below, draw a diagram that shows the particles after it sat for 24 hours based on your testing results. Make a key for the following particles and draw them in the appropriate place: **water**, **starch**, and **glucose**.



Process: In a **short paragraph**, explain what happened to the starch and glucose particles in this experiment and why it happened. **Hint: You will need two word wall words to answer this.*
