

Introduction

In this activity you will observe diffusion across a simple semi-permeable membrane. Iodine is an indicator for the presence of starch. An indicator is a substance that changes colour in the presence of the substance that it indicates for. Remember the demonstration of what happens to iodine in the presence of starch.

Materials: baggie, beaker, starch, iodine

Part 1: Work in partners to complete the following work, this will be passed in for class marks.**Pre-activity observations: (diagram and explanation)**

- After watching the demonstration Mrs. Côté showed you, record the change in iodine in the presence of starch on your own piece of paper making sure to title it Pre-Activity Observation.

Procedure for Activity (to be completed by Mrs. Côté):

- A. In a small baggie place a teaspoon of starch.
- B. Fill the baggie halfway with water and tie it off.
- C. Fill a beaker halfway with water and add 10 drops of iodine.
- D. Place the baggie in the beaker so the starch solution is submerged in the beaker water.
- E. Wait 15 minutes, while waiting, complete the pre-activity observation, activity questions and activity predictions.

Activity observations: (diagram & explanation)

- Record your initial observations on your own paper making sure to title it Activity Observation.

Activity Questions:

- Complete the following questions on your own sheet making sure to title them Activity Questions and answer using full sentences.
 1. Define osmosis.
 2. Define diffusion.
 3. What is the main difference between osmosis and diffusion?
 4. Where would you find starch in a biological system?
 5. Why is iodine an indicator?
 6. Molecules tend to move from an area of ____ concentration to an area of ____ concentration.
 7. Is the baggie or beaker more concentrated in starch?
 8. Is the baggie or beaker more concentrated in iodine?
 9. For the iodine solution: is the baggie or beaker hypertonic?
 10. For the starch solution: is the baggie or beaker hypertonic?
 11. Which one is hypotonic in relation to the starch: the baggie or the beaker?

Predictions

- Complete the following predictions on your own piece of paper making sure to title them Predictions.
 12. If the baggie was permeable to starch, which way will the starch move?
 13. If the baggie was permeable to iodine, which way will the iodine move?
 14. If the baggie was permeable to iodine, what colour will the solution in the baggie turn? What about the solution in the beaker?
 15. If the baggie was permeable to starch, which colour would the solution in the baggie turn? What about the solution in the beaker?
 16. Make a prediction about what you think will happen with the demonstration done.