

Diffusion and Osmosis Worksheet

Diffusion Demonstration

	Mass of empty container	Initial Mass container and dialysis tubing	Initial Mass dialysis tubing alone	Final Mass container and dialysis tubing	Final Mass dialysis tubing alone	Final Additional Observations (Brief description)
Dialysis tubing w/starch inside						
Dialysis tubing w/iodine inside						



Figure 1.

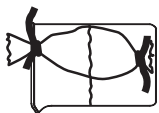


Figure 2.



Figure 3.



Figure 4.

Starch Digestion Experiment

	Mass of empty container	Initial Mass container and dialysis tubing	Initial Mass dialysis tubing alone	Final Mass container and dialysis tubing	Final Mass dialysis tubing alone	Final Observations Iodine Test	Final Observations Benedict's Test
Dialysis tubing w/starch-water inside							
Dialysis tubing w/starch-enzymes inside							

Post-Lab Questions *(Use a separate sheet of paper to answer the following questions.)*

- a.* In the diffusion demonstration, did any molecules move? If yes, use arrows, words, and color shading to show the results using Figures 1 and 2 on the Student Worksheet.
 - b.* How do you know those molecules moved? (Use data from the lab to support your answer.)
- a.* Were there molecules that “moved” during the starch digestion experiment? If yes, use arrows, words, and color shading to show the results using Figures 3 and 4 on the Student Worksheet.
 - b.* How do you know those molecules moved? (Use data from the lab to support your answer.)
- Based on the test results from the Starch Digestion Experiment, what do you conclude about the starch–water mixture’s ability to break down polysaccharides (starch)?
- Briefly describe the reaction of the Benedict’s solution with the water sample from the starch–enzyme mixture.
- Based on your test results using the starch–enzyme mixture, what do you conclude about this mixture’s ability to break down polysaccharides (starch)?
- a.* Why is the starch–enzyme mixture a good model to explain how “carbohydrate loading” can benefit athletes?
 - b.* Why is carbohydrate loading generally not a good idea for the so-called “couch potatoes” of the world? (*Hint:* Refer to the *Background* information to help answer these two questions.)