

Name _____

Period _____

AP Biology

Date _____

LAB _____. OSMOSIS CHALLENGES

You will now be given the opportunity to apply the principles you learned in the previous exercises.

CHALLENGE 1

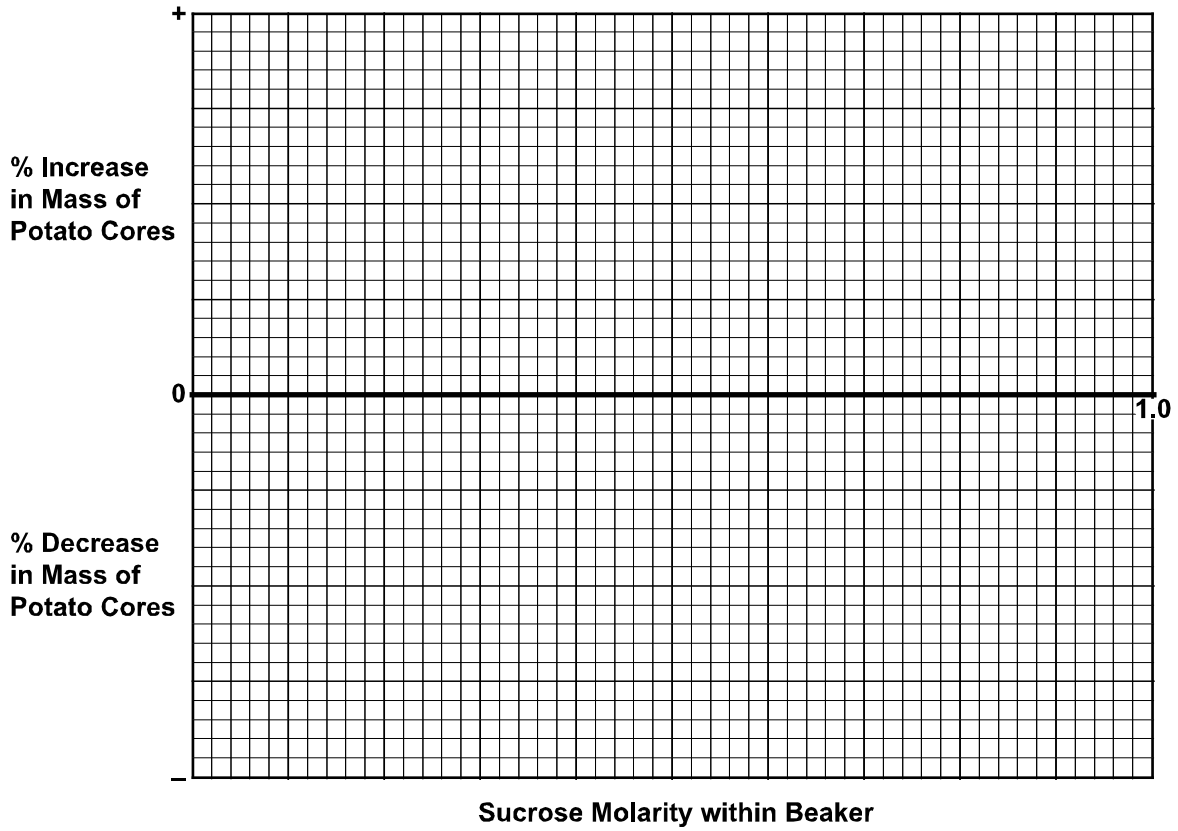
Let's now consider the molarity of an actual cell. In front of the room is a bag of potatoes. My colleague, S. W. Gamgee, challenges you to quantitatively determine the molarity of potato cells (then he invites you to Second Breakfast).

1. Explain how you solved Challenge 1.

2. Describe how you could improve on your initial solution.

DATA TABLE 1. _____

FIGURE 1. _____



1. From the graph, determine the sucrose molar concentration equivalent to the molarity of the potato cells. _____

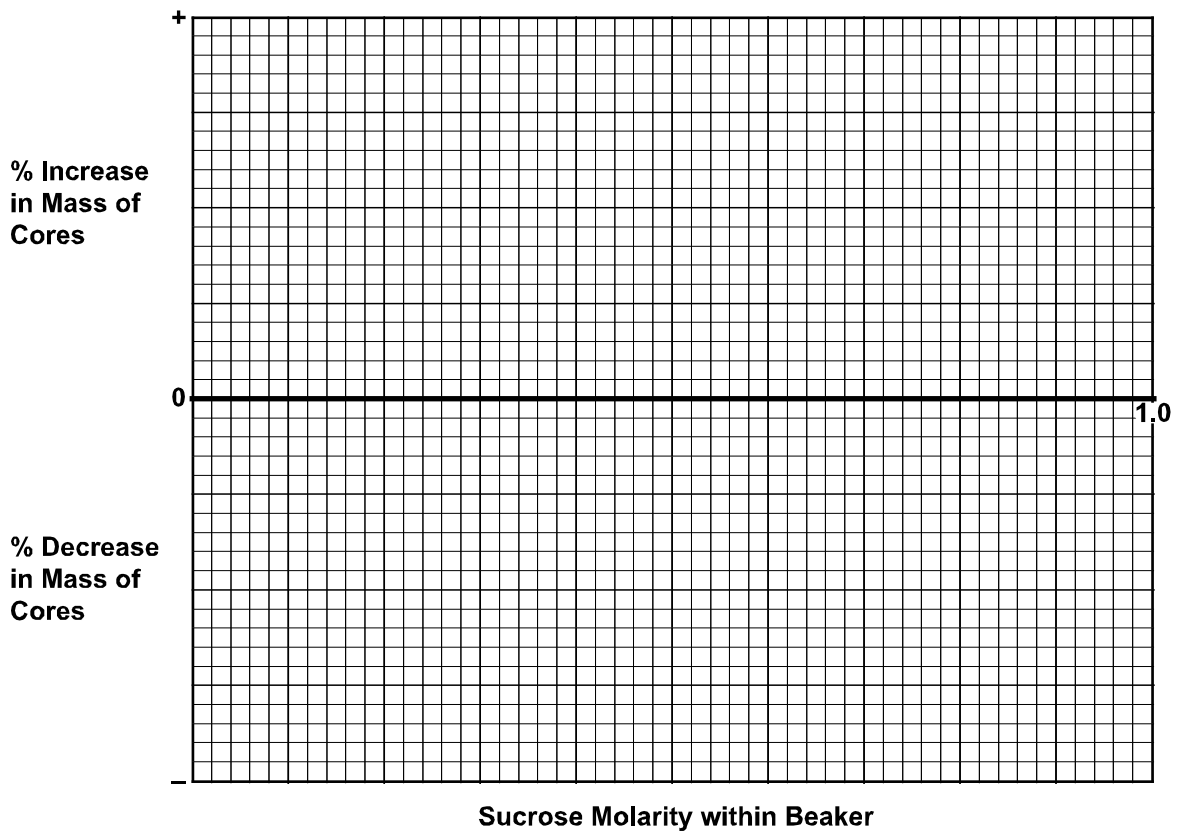
Explain how you determined this answer.

CHALLENGE 1 EXTENSION

1. Choose other vegetables and fruits and follow your potato model to quantitatively determine the molarity of these other plant cells. Make predictions as to whether they will be at a higher or lower concentration than potato cells.

DATA TABLE 2. _____

FIGURE 2. _____



CHALLENGE 2

In the front of the room are 6 flasks of different sucrose solutions. The flasks contain solutions that are either 0.0M, 0.2M, 0.4M, 0.6M, 0.8M, or 1.0M sucrose. Unfortunately my colleague, Professor I. B. Clueless, forgot to label the flasks! Devise a method for quantitatively determining which flask holds which solution.

2. Explain how you solved Challenge 2.

3. Describe how you could improve on your initial solution.

DATA TABLE 3. _____
