

# Osmosis lab assignment



**ASSIGN  
BUSTER**

Introduction: In this experiment, you will study osmosis. Your task is to design an experiment that will determine what concentration of solute is isotonic with the specimen cells. (Design) Procedure: You will be provided with the following materials: Potato, potato corer, scalpel, forceps, electronic balance 10 % salt solution, distilled water, 50 mL beakers, graduated cylinder, paper towel You must design a procedure that will enable you to determine the concentration of salt that is isotonic with your specimen.

You may use only the materials above and you must be able to complete your experiment within one period. Remember to clearly identify your all your independent and dependent variables. (Design) 1. Slice 10 cubes of potato (skinless) and attempt to dry them or rid of excess water 2. Mass the potato cubes and record all observations 3. Create 10 dilutions starting from 2% and creating 1. 5%, 1. 0%, 0. 5%, 0. 1%, 0. 05% solution by using a volume to volume ratio. This can be done by taking 1 part of the salt solution and 9 parts of distilled water to create a 1: 10 dilution. 4.

After leaving the potatoes to react over the weekend, dry off and mass the final product. 5. Knowing the initial and final masses, the change in mass after the reactions can be determined. 6. The beaker with the least change between the initial and final masses would be the best estimate for the salt concentration in the potato Observations: You will collect and present the relevant raw data. Attention must be given to the uncertainty of your measurements. (Data Collection and Processing) | | Starting Mass (g) ?? 0. 0005 | Ending Mass (g) ?? 0. 005 | Diff. of Mass (g) ?? 0. 0005 | | Potato 1 (2%) | 0. 905 | 0. 862 | 0. 043 | | Potato 2 (1. 5%) | 0. 942 | 0. 976 |-0. 034 | | Potato 3 (1%) | 0. 950 | 0. 972 |-0. 022 | | Potato 4 (0. %) | 0. 929 | 1. 040 |-0.

111 | | Potato 5 (0.01%) | 0.964 | 1.016 | -0.052 | | Potato 6 (0.001%) | 0.947 | 1.005 | -0.058 | Discussion: You will carry out the necessary data analysis, processing and presenting the data appropriately.

Remember, the processing and presentation of data is designed to facilitate your conclusion. You will also explain and evaluate the results fully. Include a brief statement summarizing your investigation. (Data Collection and Processing, Conclusion and Evaluation) Evaluation: You will hand in the following sections: Introduction, Procedure, Observations and Discussion. Although you may have carried out the procedure as a member of a group, the written work that you hand in must be an individual effort. You may be evaluated in the following categories: D, DCP and CE.