

Laboratory 3 Assignment

Working with and interpreting the Osmolarity Estimation Data

Using the second page of this handout, complete the following:

A. Prepare a graph that possesses all of the required elements using the data below. Be sure to graph only the relevant information. Use the grid for your graph.

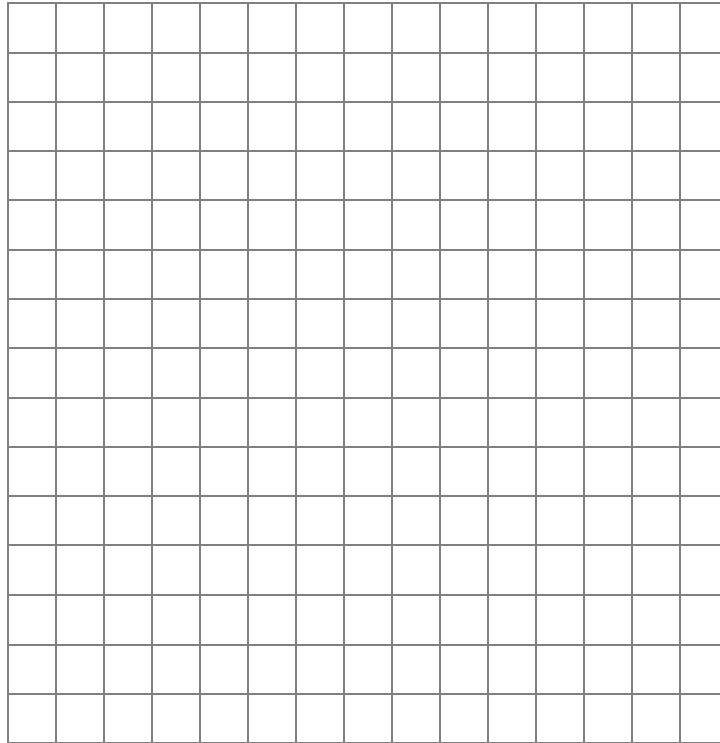
B. Answer the questions below the grid/graph.

Volume and weight change (%) of potatoes to estimate osmolarity**Volume change in %**

		Sucrose Molarity						
Group		0.0	0.1	0.2	0.3	0.4	0.5	0.6
1		4.00	4.00	33.30	-10.00	-10.00	-4.00	-38.90
2		2.00	7.00	-2.00	-9.00	-37.00	-39.00	-57.00
3		5.90	3.60	-19.80	-10.00	-1.95	-30.60	-32.40
Average		3.97	4.87	3.83	-9.67	-16.32	-24.53	-42.77

Weight change in %

		Sucrose Molarity						
Group		0.0	0.1	0.2	0.3	0.4	0.5	0.6
1		17.00	15.00	9.00	3.90	-8.50	-14.00	-16.00
2		16.00	14.20	6.60	-26.30	-15.40	-36.60	-23.00
3		12.90	0.00	0.00	-7.90	-0.50	-18.40	-20.50
Average		15.30	9.73	5.20	-10.10	-8.13	-23.00	-19.83



1. At what sucrose molarity does the Volume % curve cross the 0% change line in the graph?
At what molarity does the Weight % curve cross it?
2. If there is a difference between the Volume % and the Weight % change lines, provide a possible explanation for the difference.
3. What is your estimate of the osmolarity of the potato tissue?
4. Comment on the reliability of the data and how interpretation of the data might be different if more samples were included in the data set.