

Salinity Worksheet

Data Table

Sample	Number of Drops of 1.0 M Silver Nitrate Added			
	Trial 1	Trial 2	Trial 3	Average
0.5% Sodium chloride solution				
2.0% Sodium chloride solution				
4.0% Sodium chloride solution				
Unknown water sample 1				
Unknown water sample 2				

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

- Graph the titration results for the standard solutions: Plot the average number of drops of 1 M silver nitrate added on the y -axis versus the concentration of sodium chloride (%) on the x -axis. Using a straightedge, draw a best-fit straight line through the origin and the data points.
- Using the graph, determine the concentration of sodium chloride in the two unknown samples.
- Classify the unknown samples as fresh, brackish, marine or brine based on the concentration of sodium chloride. Explain.
- The water in one location along an estuary was sampled every hour for twenty-four hours. The twenty-four samples were analyzed using the titration method used in this experiment. The data table below lists the concentration of sodium chloride for each water sample. Based on these results, determine the approximate times of high tide and low tide that day.

Time sample taken	Concentration of sodium chloride (%)	Time sample taken	Concentration of sodium chloride (%)
12 am	0.7	12 pm	0.3
1 am	0.9	1 pm	0.8
2 am	1.2	2 pm	1.1
3 am	1.6	3 pm	1.4
4 am	1.8	4 pm	1.7
5 am	1.6	5 pm	1.5
6 am	1.3	6 pm	1.2
7 am	1.0	7 pm	0.9
8 am	0.8	8 pm	0.7
9 am	0.5	9 pm	0.4
10 am	0.3	10 pm	0.2
11 am	0.1	11 pm	0.5