

Bioassay Worksheet

Data Table

NaCl Concentration	Number of Seeds Germinated	Percent Germinated	Root Length (mm)	Average Root Length (mm)	Log (Salt Conc.)
3%					
2%					
1%					
0.5 %					
0.1%					
0.01%					
Control (0%)					

Post-Lab Questions

1. Define LD₅₀. Describe situations where it may be used.
2. Using the percent germination results, determine the concentration of salt solution that resulted in a 50% “death” of lettuce seeds. Label this point on the graph.
3. What was the effect of salt solution concentration on the growth of the roots of the seeds that did germinate?
4. Discuss three environmental effects of using sodium chloride as a deicing agent on highways and roads in the winter.
5. How would you determine the concentration of the solutions and the number of tests to be performed, if you were to design a bioassay of an unfamiliar potential toxin?
6. Outline the steps involved in designing a bioassay to test the toxicity of contaminated soil using lettuce seeds.