

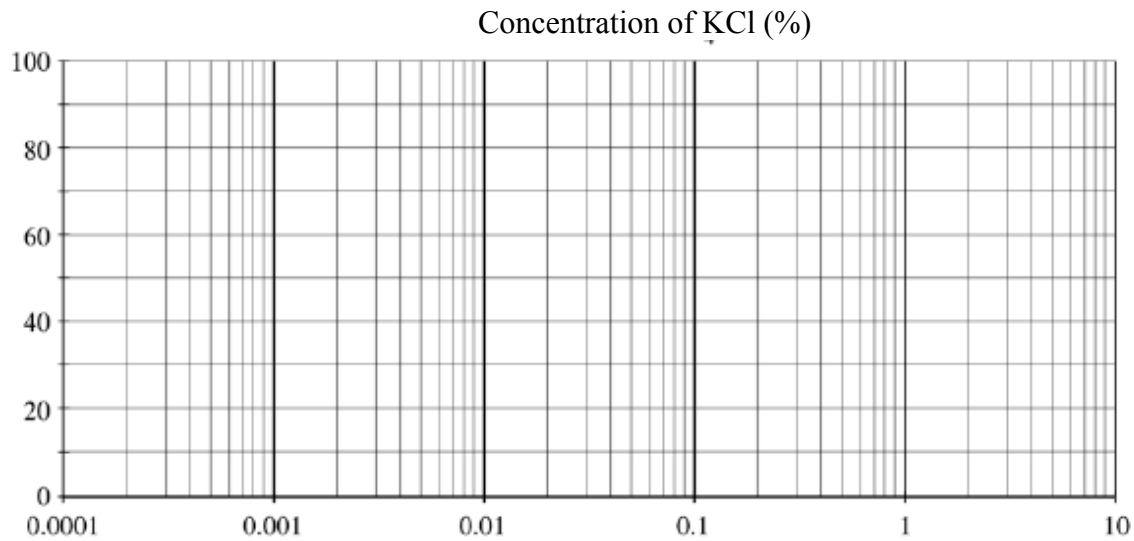
NAME _____

DATE _____ PER _____

Data from brine shrimp toxicity lab.

KCl conc. (%)	Number of dead daphnia
.0001	0
.001	0
.01	0
.1	50
.5	140
1	200

Daphnia are small aquatic organisms similar to brine shrimp. An LD₅₀ experiment was done on 200 daphnia.



1. Plot the results of the LD₅₀ test on the graph above. Label the graph axes.
2. What is the threshold of toxicity of KCl for daphnia? Label this point on the graph.
3. What is the LD₅₀ concentration of KCl for daphnia? Label this point on the graph.

Toxicity Math

1. Cadmium nitrate is a white crystal chemical that is a known carcinogen that may affect kidneys and lungs. LD_{50} testing has been done on rats. The LD_{50} for rats was found to be 300mg/kg. Extend this result to humans. Assume an average mass of 70kg/person. Determine the potential LD_{50} for humans of this chemical. Show your work. Circle your answer.

2. Sodium carbonate is another white powder that is primarily an irritant but it is lethal at large doses. Testing was done orally on rats and the LD_{50} was found to be 4090mg/kg. Again extend this result and calculate the potential LD_{50} for humans of average mass 70 kg. Show your work and circle your answer.