

Bioassays to Test Water Treatment Data Interpretation Sheet

Name _____ Date _____

Chemical tested _____
100% concentration _____ mg/L

Some questions to consider: (Please use full sentences.)

1. What are we hoping to accomplish when we use water treatment columns before running a bioassay?
2. Based on your data for the untreated chemical solutions, would you say that this compound is toxic to lettuce seeds? Describe any trends you found in the average radicle length for the series of concentrations of untreated solutions.
3. Which (if any) of the three treatment columns removed a substance that is toxic to your bioassay organisms? How can you tell?

4. For the treatment column that worked best, what ions or compounds do you think are present in the solution after it has been treated? Draw an illustration showing what ions go into the top of the column and what ions you think are in the effluent that drains out the bottom.

5. Describe in your own words how this column purified the cupric chloride solution.

6. How do the radicle lengths of the seeds grown in effluent from this column compare to the control group?

7. What can you conclude – were you able to detoxify the sample by treating it with this column?
8. What can you conclude about the toxicity of cupric chloride? Does the Cu^{+2} cation, the Cl^- anion, or the whole compound cause the toxicity? What evidence leads you to reach this conclusion?
9. Briefly describe an experimental set-up you could use to attempt to classify contaminants in an unknown such as water you have collected from a storm drain.