

LD₅₀ Lab

Part I: Serial Dilution

A. At what dilution was the color not visible?

Part II: Daphnia

A. Group Data: % mortality

B. Class Data: % mortality

Group	100ppm	10ppm	1ppm	100ppb	10ppb	1ppb	Control	
1								
2								
3								
4								
5								
6								
Total								
Average								

C. Data Analysis: Graph on semi log paper % mortality vs. Concentration of copper sulfate

LD₅₀ Questions:

1. From part one, how many ppb were there in the well that you decided was clear (no color)? Ppt?
2. If you can't "see" the green/red, how could you determine if there were any color molecules in the well?
3. The Pt. Loma treatment plant does not have to meet 2 degree treatment of effluence because the Miramar and so bay plants that feed into point loma do third degree treatment. They say "dilution is the solution to pollution." Explain
4. How does this activity relate to the "nonthreshold dose model?" "threshold does model?"
5. The LD50 for the following
 - Arsenic 50 ppb
 - Mercury 2 ppb
 - No3- 10,000 ppb
 - Selenium 50 ppb
 - PCB .5 ppb

(all for drinking water)

- (A) Rank in order of most harmful to least harmful
- (B) For each, give a source and an effect