

Lab Report Requirements, Weeks 7, 8, 9

Revised: 9/21/15

Report details: Each *group* will turn in one report. Make sure the names of all lab partners are on the front page of the report.

Title Page. *Required.*

Abstract. *Required.*

Introduction. *Required.*

Describe the general and specific goals of your project:

1. Discuss the purpose of analyzing seawater.
2. What do the concentrations of the ions tell us? How do the concentrations of these ions affect the ocean/world around us? (Is that value increasing/decreasing? Is that species good/bad for nature/animals/plants/weather and in what quantities?)
3. Which ion are you analyzing, and why is it in seawater? Where does it come from?
4. Explain the theory behind your analysis method.

Experimental. *Required.*

Write detailed procedures that include qualitative observations and exact quantities of reagents. These should be so detailed that you could give them to a classmate who has not taken this class and he/she would be able to successfully complete your experiment. Do not assume that this student knows the basic skills that you have learned in this class. Model this section after the typical experimental section in a scientific journal article.

Results. *Required.*

Include the most significant data you obtained in the form of graphs and tables. Show all data in tables and graphs.

Discussion. *Required.*

1. Analyze the data.
2. Include a detailed description of how your experiment differed from the work described in the journal article references. What things worked, what did not work, and what was difficult?
3. How do your values compare to the known typical values? Does your sample have a higher or lower concentration than you expected?
4. What could you do differently to improve your analysis method?

Conclusion. *Required.*

References. *Always required.*

Statistical Analysis. *Required.*

Contribution Paragraph. *Required for each student.*

Please write a paragraph describing your contributions to the procedure write-up, the experimental testing on synthetic and authentic seawater samples, and the postlab write-up. Be specific on sections written, tasks performed, etc. Attach each partner's paragraph at the end of your ELN.