

COMMUNICATING RESULTS

Writing a Lab Report

Even after you have collected and organized data, decided on a way to present the data, and determined what the data mean, you must still write a report to communicate your results. Written lab reports are organized in specific ways so other people can clearly understand what you did, how you did it, and what you found.

A lab report should contain the following sections in the order shown below.

- a **title** that describes what you did
- an **introduction** containing the problem, any necessary background information, and the hypothesis that you are testing
- a **materials** list
- the step-by-step **procedure**
- **data** displayed in tables and graphs
- a **discussion** of your results and what they mean
- the **conclusion**, where you state whether or not the data support the hypothesis, as well as formulating questions for further research

Evaluate the following introduction section that a student wrote after investigating how increasing the salt content of water affects the degree to which a toy boat will float:

Will a boat float higher in salt water than it does in fresh water? We chose to investigate this problem after learning that salt water has greater density than fresh water. When a river flows into the ocean, the river water will float above the salt water due to its lower density. Sailors have said you can dip a cup in the ocean in the region where the Amazon flows into it, and come up with a fresh drink. So it makes sense that boats might actually float higher in the ocean than lakes. We think our results will show that if water has more salt dissolved in it, then boats will float higher in it, because the water will be denser.

1. What is the problem statement?

2. What is the hypothesis?

3. Identify the independent variable: _____

4. Identify the dependent variable: _____

Name _____

Period _____

Date _____

5. Do you think this introduction contains enough background? Why or why not?

6. What title would you give this student's lab report?

Assume that the data collected during the experiment generally supported the hypothesis. Evaluate the following discussion section for this investigation.

If you look at our data table, you can see that the toy boat rode highest in the saltiest water. This proves our hypothesis, except that our measurements could have been wrong. Also the water got wavy when we kept banging into the table. Overall this was a good experiment and I learned a lot.

7. Identify at least four things you would improve if this were your own lab report. How would you improve them?

Challenge Think about how this investigation might have been conducted. Write the materials and procedure sections that would be appropriate to include in the report.
