

**Guidelines for Writing Laboratory Reports**  
**Mr. Leal**

Your reports will be organized and written in the form of a classic scientific science paper consisting of the following sections in the order listed below. Each lab will be submitted digitally unless instructed otherwise. Each lab report will follow the following format:

**Title Page with Abstract**  
**Methods**  
**Results, including Data and Calculations/Graphs**

Each section should be labeled with the heading placed in the left hand margin (except for the title).

1. **Title Page:** Be descriptive and don't worry if the title seems a little lengthy. One word titles, often appropriate for essays, are seldom adequate for lab reports. Place the title at the top middle of the first page. The title page should also include your full name and the full names of those in your lab group, and the date of the lab.

<b>Below Expectations</b>	<b>Meets or Exceeds Expectations</b>
"Salt Solution Density Lab"	"Determination of the Relationship Between the Density and Concentration of Sodium Chloride Solutions"

2. **Abstract:** There are **five** essential components to an abstract:

- **Background** – Define important concepts, theories or laws being examined.
- **Statement of purpose** – What were you attempting to do in this lab?
- **Summary of Methods** – What methods did you use to complete this investigation? This should be a summary, not a detailed procedure like the one you completed earlier.
- **Summary of Results** – What happened? Summarize observations and results of calculations and graphs.
- **Significance of Findings** – What important concepts or theories are reinforced by your results? What experimental errors or limitations might have negatively influenced your results?

The abstract is written in narrative form. It is NOT a list. Do not use fragmented or partial sentences. Write complete thoughts, as if you are having a conversation with the reader. Remember that the abstract goes on the title page!

3. **Methods:** You should summarize the procedures in point form creating a step by step description in your own words of what you **did** in the lab. Avoid the first person (I, we, etc..). It should begin on the **SECOND** page of your lab report.

<b>Below Expectations</b>	<b>Meets or Exceeds Expectations</b>
"Measure out 10.00 mL of the 5% NaCl solution using a pipet and a graduated cylinder, being careful not to lose any solution. Place the graduated cylinder on an analytical balance and determine its mass to three decimal places. Record the mass in the lab book."	"Using an analytical balance, the masses were determined for 10.00 mL samples of each of the solutions of known concentration."

4. **Results:** Results include **important** data gathered during the lab, observations made, and calculations or graphs completed using the lab data. You should present data in a table. Tables must include the units for the dimensions being measured.

<b>Below Expectations</b>	<b>Meets or Exceeds Expectations</b>									
5% solution = 10.012 g 10% solution = 10.180 g 15% solution = 10.230	<table border="1"> <thead> <tr> <th style="text-align: center;"><b>Concentration</b></th> <th style="text-align: center;"><b>Mass (g)</b></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">5%</td> <td style="text-align: center;">10.012</td> </tr> <tr> <td style="text-align: center;">10%</td> <td style="text-align: center;">10.180</td> </tr> <tr> <td style="text-align: center;">15%</td> <td style="text-align: center;">10.230</td> </tr> </tbody> </table>	<b>Concentration</b>	<b>Mass (g)</b>	5%	10.012	10%	10.180	15%	10.230	
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All graphs must have the axes labeled with the dimensions being represented, and an appropriate scale chosen for both axes. Graphs must be done digitally unless instructed otherwise. Calculations should include the fundamental calculation used to solve, as well as the correct units and significant figures. Any Post-Lab questions are answered here as well.

<b>Below Expectations</b>	<b>Meets or Exceeds Expectations</b>
Density = 10.012 g/10.00 mL = 1.0012 g/mL (significant figures error) Density = 10.012/10.00 = 1.001 g/mL (labels not present in calculation)	Density = m/V (fundamental equation shown) Density = 10.012 g/10.00 mL = 1.001 g/mL (labels present throughout calculation, significant figures rules observed)

### **Grading**

Each lab report is worth **40 points**. Lab reports in which the student has plagiarized from an outside source, or from fellow students automatically earns ZERO POINTS for the score and be reported! Students are expected to work in groups in the lab, but **do their own thinking and writing on their lab reports!** Do not present the argument, "But we worked on it together" if confronted with cheating. If students submit lab reports with identical sections, you will receive no credit for the work. The instructor will not make a distinction regarding who did the original writing and who did the copying. In instances of copying, all students involved lose credit. **DO NOT ALLOW OTHER STUDENTS TO COPY YOUR WORK.**

Students who frequently lose points for problems with calculations, sentence structure, punctuation, or spelling are encouraged to have reports proofread prior to submitting the lab report for a grade. Your instructor reserves the right to have you re-write your lab report to correct obvious deficiencies prior to grading the report.