

Laboratory Report Guideline – Gas Laws

1. Cover Page

Title of the Report, Name, Lab Partner's Name, TA Name, Section number

2. Abstract

the purpose of the experiment
the experimental value of absolute zero
the mass percentage of the unknown

3. Theory

Discuss both Boyle's and Charles' Laws and define each law mathematically. Show how they can be combined to get the Ideal Gas Law. Explain how you expect the graphs to look (e.g. is the line expected to be straight, curved, ...)

4. Procedure – reference the lab manual with page numbers

5. Data

write the atmospheric pressure value
the data tables for Boyle's, Charles's Laws, and the production of N_2 gas

6. Calculation

an example of the calculation for Boyle's Law – PV calculation
an example of the calculation for Charles's Law – V/T calculation
how was the experimental value of absolute zero found
calculate the percent difference
Boyle's Law and Charles's Law graphs
calculations for the N_2 gas – see page 25 of the lab manual

7. Error Analysis

Do the graphs look like expected? If not why not.
compare the literature and experimental values of absolute zero (explain what possible errors might contribute to the deviation)
general errors from the experiment

8. References

9. Questions

answer questions on page 21 – These don't have to be in a special question section, but can be answered somewhere in the discussion. Show the calculation for #5)

Reminder: be sure not to use pronouns and make sure all your data tables and calculations have the appropriate units and significant figures