

FORMAL LAB FORMAT

CHEMISTRY
MHS

1. QUESTION STATEMENT

- Step 1: Question
- Write the question you are trying to answer.
- Take object/main point of lab and turn into an investigative question. (1-2 Sentences)

2&3 PRIOR KNOWLEDGE

- Summarize your findings by listing relevant facts and the source for each fact .
- List of facts and definitions that were researched or discussed before the lab was conducted.
- List the formulas that are needed to perform the calculations in the lab.
- Source for all facts and equations should be cited.

- Facts

- Fact 1

- Fact 2

- Fact 3

- Sources

- 1.Class Notes

- 2.Text (page)

- 3.Internet (ip address)

4. EVALUATION/HYPOTHESIS

- This is like a “Hypothesis”. Before you plan a procedure, decide how you will determine whether your answer is useful or not in trying to answer the question.
- Provide a few sentences that describe how you will attempt to solve or answer the question statement. This section should also describe how you will determine if you were successful in answering the questions.

5. METHOD /EQUIPMENT

- Propose a way to answer the question.
- In some labs you may be given the procedure
- A list of the materials used to complete the investigation
- A numbered set of detailed instructions that describe what you did in the investigation; steps need to be descriptive enough that someone could repeat your steps exactly.
- Section should include picture or diagram of laboratory equipment setups.

6. DATA/EVIDENCE OBSERVATIONS

- Follow your procedure
- Keep careful track of your data in the table you designed
- Make keen observations and write them down
- Section should have a table that shows all acquired/collected/measured data produced during investigation.
- **All data must have proper UNITS!!!!**
- A list or paragraph that describes what you observed during investigation (including photos is a great way to see exactly what occurred)

STEP 7: ANALYZE RESULTS

- Interpret your data to try to answer the question. This may require:
 - Calculations (show how numbers were derived using the equations)
 - Graphs (only some labs require a graph)
 - Logical Reasoning
- This section is where you show **all calculations** that were performed during the investigation to help answer the question. If one calculation is repeated multiple times, one example calculation can be shown.
- A paragraph interpreting collected data using logical reasoning should be included when necessary, depending on the investigation.(Usually required by labs without calculations)

8. & 9. EVALUATION AND TROUBLESHOOTING

- What could have gone wrong? There are many possibilities. You will need to make corrections before you can go on. (More a Physics Lab Step)
- This section should always begin by stating the calculated Percent Error for results with calculations.
- The rest the rest of this section should be devoted to explaining where you believe this percent error occurred in the investigation and describe how these errors could be eliminated or minimized.
- For labs without a percent error calculation you should write a paragraph that describes any potential errors that may have occurred in the laboratory and how lab could be modified to reduce these errors.

10. CONCLUDING ARGUMENT /REFLECTION (CER)

- Restate question statement
- Make a claim about the success of answering your question statement.
- List acquired data and Analysis that prove success or failure.
- Explain how or why this data is useful in addressing the question. Use reasoning to explain why your results (based on your data and please re-state appropriate data) are useful in answering the question.
- List % error and describe largest source of error involved with investigation
- Include answers to included reflection questions when included on lab sheet.

11. POST LAB QUESTIONS (WHEN INCLUDED)

- Retype the questions and answer completely using complete sentences.
- May require you to do some research to answer the question. Be sure to use a reputable source yahoo answers and similar sources are not reliable.
- If using an answer from the web or a book cite sources.