

HIS/SCI 265 History of Science Lab Reports Through Time

DETAILS:

This is an individual assignment. You will be submitting your own unique paper. This means that even though each person in your group will have the same data and narrative, your reports may not be written together.

Papers are to be printed, stapled, 12-point font with standard spacing and margins. They must also be uploaded to the submission link provided on MyCourses. The four sections will be clearly divided with section headers. You will be graded for content, following specific instructions and formatting to college-level standards.

Due at the start of class on XXXXXX

THE ASSIGNMENT:

You will be writing up your data and lab experience in 3 different formats (Galileo, Boyle, Modern) and then answering comparison questions in the 4th section. Sections 1, 2 and 4 will each be roughly one page in length. Section 4 will include appropriate citation of relevant assigned readings.

Section 1: Galileo

Style: A detailed and descriptive narrative of the essence of the experiment with a dialogue between characters who embody a debate over the hypothesis.

Data: Data is not the central part of the narrative.

Conclusions: Conclusion not reached.

Section 2: Boyle

Style: Detailed

Data: Data presented with all errors, conflicting pieces of evidence and procedural mishaps.

Conclusions: You will want to invite readers to consider possible conclusions that they might draw from your data.

Section 3: Modern Lab Report

Style: Structured into different sections (see template) with impersonal language

Data: Presented in tables/graphs

Conclusions: Based on the actual data not on any prior ideas or predictions; if the data is inconclusive, then this must be clearly stated in the conclusions section.

Section 4: Reflection

Answer these questions in a specific reflection. Use appropriate citations from the relevant assigned readings to support your arguments.

1. Is your conclusion the same for each report?
2. Which of these formats would best help someone else besides you to repeat a scientific experiment under the same conditions and believe your conclusions?
3. How does this evolution of style correspond to the evolution of the practice of “doing science”? Which style most closely resembles a modern lab report, Galileo’s or Boyle’s? Consider all styles in your answer and be specific

Use of Sources: In Section 4, you should use and cite the two primary sources (Galileo’s *Dialogue* and Boyle’s publication in the *Philosophical Transactions*), as well as the Bowler and Morus textbook using MLA style. Please provide a bibliography of sources used at the end of your paper. **NO outside sources are allowed.**

WRITING A LABORATORY REPORT

“THE NUTS AND BOLTS”

Foley-Peres & Poirier

Modified by Pisano, 2011, 2018

- STUDENTS SHOULD REFER TO THEMSELVES AS THE RESEARCHER IN THE REPORT. THE THIRD PERSON SUCH AS HE/THEY MAY BE USED FOR FOLLOW UP.

REPORT COMPONENTS

- INTRODUCTION/PURPOSE
- MATERIALS
- PROCEDURE
- RESULTS
- DISCUSSION/CONCLUSION

INTRODUCTION (why you did what you did)

- ❖ EXPLAINS THE BACKGROUND INFORMATION NECESSARY TO UNDERSTAND THE EXPERIMENTATION AND RESULTS
- ❖ ONE TO TWO PARAGRAPHS OF INFORMATION
- ❖ INFORMATION CAN COME FROM PROVIDED MATERIALS
- ❖ THE LAST SENTENCE OF THE INTRODUCTION IS THE CLEARLY STATED PURPOSE OF THE EXPERIMENT (what you were trying to learn or test)

MATERIALS (what did you use in this lab)

- ❖ IN LIST FORMAT
- ❖ SPECIFIC
- ❖ ALL MATERIALS LISTED WERE USED IN THE LAB

PROCEDURE (what did YOU do exactly)

- ❖ A SUMMARY OF WHAT WAS DONE IN THE LAB
- ❖ PAST TENSE SINCE YOU HAVE COMPLETED THE LAB
- ❖ SPECIFIC AND DETAILED

DATA (what has been measured or observed)

- ❖ ORGANIZED IN GRAPHS OR TABLE EACH WITH A TITLE AND A LEGEND
- ❖ PRESENTED TO BE EASY TO READ AND UNDERSTAND
- ❖ ONLY MEASURED OR OBSERVED INFORMATION SHOULD BE IN THIS SECTION—NOT ANY CALCULATED INFORMATION
- ❖ USE UNITS OR INDICATE MAGNIFICATION

DISCUSSION/CONCLUSION (present tense)

- ❖ DISCUSS YOUR FINDINGS AND ERRORS IN THE CONTEXT OF THE THEORY ASSOCIATED WITH THE LABORATORY EXPERIMENT
- ❖ 2 PARAGRAPHS, 3-4 SENTENCES EACH