

Group Report

Each group will submit a report that discusses the underlying science of soaps and soap-making, the materials and methods used in your project, and a discussion of the process through which the group arrived at the final formulation. The report must include the following sections:

Introduction: No more than 3 double-spaced pages that express a thorough and clear understanding of each of the following questions. Questions should be approached through the lens of chemistry. “Talk nerdy to me.”

How does the structure of soap grant it the ability to clean?

How is soap formed? What are the details of the soap formation reaction?

How is the science of soap making and soap cleansing related to the following terms?

- polar/non-polar

- precipitation (investigate hard water and soap)

- any other terms you deem to be important

You must do research to investigate the above questions.

Materials and Methods: This documented lab procedure should be explicit enough to allow a third-party to reproduce your results and soap product **exactly**. Provide a list of all required materials and equipment (with appropriate amounts), followed by a bulleted or numbered procedure that is specific and precise.

Results and discussion: 2-4 double-spaced pages. This is you telling a story of how your lab group got from point A (initial soap recipe) to point B (final product). This process should be clearly presented and justified with data and research. **ALL** results, test data (such as when Day 2 soap samples were tested), calculations, and research from your group that led to your final product should be included in this section. A test that “does not work” in your group is often as important as a “successful” test and should be discussed. Present all data in a professional and organized form (i.e., table). Mr. H wants to know the logic behind your decision-making.

References: All sources used for the project must be cited using an accepted format (such as ACS format). Sources are cited in text with numbered superscripts¹ in numerical order. All references are listed at the end of the report.

Deadline: Your report is due at midnight on Sunday evening, January 13. But don't be foolish; you should make every effort to finish it by the end of class on Friday, January 11.