

50pts total

The investigative lab will allow you to decide on an analyte and sample for which you have interest. It will help you to think through the entire analytical process from asking a question to presenting results. The final report should be written as a laboratory procedure that students in the future might perform. Your audience for the paper is to those who have taken general and organic chemistry courses.

- Decide on a topic (sample and analyte) and be able to describe how your question is important to society.
- Annotated bibliography (see link to Purdue OWL site as linked in ACE resources).
Provide 2-3 sentences summarizing the source, 1 or two sentences talking about the validity of the source (was it peer reviewed?) several sentences outlining how you will use the information from the source in your report.
- Outline
 - The outline should have the major sections of the report as follows, and should consist of at least points and sub-points under each major report section.
 - Major report sections
 - Title
 - Introduction (why the topic is important to society and what skills/techniques will be learned in the lab, briefly explain how the analytical technique is to be used and how the instrument works.)
 - List of required materials
 - Sampling (how samples will be taken, number of samples)
 - Sample Prep (requiring at least three distinct steps)
 - Sample Analysis (what instrumental, wet chemical technique will be used, and how will they be calibrated, how will external, internal, standard addition standards be made?)
 - Data Analysis (How should data be analyzed, what statistical methods should be used, what types of final results should the student report?). Note you are not making up data for the investigative lab so just state what results should be included in a student's final report.
 - Conclusion (include a list of questions the students should answer about the lab, and a concluding statement)
 - Bibliography (non-annotated)

