For your final project, you write a short paper (maximum: 3 pages double spaced excluding data tables) regarding one of the topics below:

1) Air pollution (discuss about gas pollutants such as SO2, CO, O3, NO2, or Pb)

2) Greenhouse gases and the effect on global warming

3) Ozone hole

4) Acid rain and/or ocean acidification

5) Household wastes (bug sprays, bathroom cleaners, aerosol cans, gasoline, paint, gas, batteries, etc.) and its effect on water quality

Your research paper should include the following:

i) Introduction:

* Brief overview of the problem (i.e. why is this a problem? Provide evidence to support this.)
* Importance of the problem (i.e. why is it important to learn about this?)

ii) Body:

* Discuss the chemistry behind the problem (i.e. How is acid rain formed? Include chemical equations to support your discussion) Include any data tables here if necessary.
* What has been done to address the problem thus far? Have there been any treaties and/or protocols that have been established to address these issues? If so, discuss the effectiveness of these treaties and/or protocols (i.e. The Kyoto Protocol is an international treaty that was established for the purposes of reducing greenhouse gas emissions)

iii) Conclusion:

* Discuss the implications of these issues on human health and environment

Your work must be cited using APA (American Psychological Association) style. Include the citation list at the end of your paper. If you are unfamiliar with APA style, please consult the following website for detailed instructions: <https://owl.english.purdue.edu/owl/resource/560/01/>

Data Tables:

* Make sure to label your data tables appropriately (i.e. *Figure 1. Table of Household Wastes*). Please note the data tables are not included in your 3-page limit.

Rough Draft (Optional):

If you would like to get some feedback about your research paper, please submit a rough draft to me by:

April 18 (Section B, H)

April 21 (Section C, KM)

Submission:

Between you and your partner, one person will submit a copy of the paper electronically via Blackboard by the due date (see below). The paper will then be submitted to Turnitin in order to check for plagiarism.

Due Dates:

**April 25 (Sections B, H) by 5 PM\***

**April 26 (Sections C, KM) by 5 PM\***

**\*No late papers will be accepted.**

Name:

**CHE 126 Final Project: Research Paper Rubric**

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| --- | --- | --- | --- | --- | --- |
| **Category** | **5** | **4** | **3** | **2** | **1** |
| Content | Overall, the information provided is accurate with no major mistakes. The content is clear and concise. The data presented are focused on supporting the research topic. | The content is clear and concise though the supporting information is somewhat general. | The content is vague in conveying a point and does not create a strong sense of purpose. | The content lacks a clear point and the supporting information is not focused on any central theme. | The content is unacceptable and/or irrelevant. There is no clear purpose or focus. |
| Knowledge | Demonstrates a thorough and solid understanding of the chemistry and/or the types of chemical reactions relevant to the topic. Includes pertinent chemical equations and discusses them accurately. | Demonstrates a solid understanding of the chemistry and/or types of chemical reactions relevant to the topic. Includes the pertinent chemical equations but fails to discuss them. | Demonstrates a weak understanding of the chemistry and/or types of chemical reactions relevant to the topic. Includes chemical equations irrelevant to topic. | Demonstrates a weak understanding of the chemistry and/or types of chemical reactions relevant to the topic. Does not include chemical equations. | Demonstrates a poor understanding of the chemistry and/or types of chemical reactions relevant to topic. |
| Style | Writing style is clear, concise, and logical. No significant grammar mistakes. | Writing style is clear and logical for most part, but not concise. There may be a few sentence fragments and/or run-on sentences. | Writing style is generally unclear and inconsistent. Significant grammar mistakes are present. Also, there are sentence fragments and/or run-on sentences throughout the paper. | Writing style is illogical and very difficult to understand. | Writing style is overall very poor and unacceptable. |
| Data tables (graphs, figures) | Data tables are presented in an organized and legible manner. Also, they are properly labeled and discussed in the paper. | Data tables are properly labeled and legible. However, they are not discussed in the paper. | Some data tables are mislabeled and illegible. | Data tables provided fails to add value to the discussion. | Data tables provided do not support the research topic. |
| Citation | All sources have been accurately referenced using APA style for citation. |  | Most sources have been referenced, however, they are inaccurately referenced. |  | A few sources are missing in the citation list. |

Total: /25