**Chemistry Honors Project Assignment — 2nd Semester**

“Napoleon’s Buttons: 17 Molecules That Changed History” by Penny Le Couteur & Jay Burreson

**Overview**

Chemistry has had a profound impact on the history of human development. Many of the compounds we take for granted today were once responsible for dramatic, fantastic and sometimes cataclysmic changes in the functions of society. European demand for the spice molecule *piperine* (the basic molecule of pepper) not only fueled early exploration, but also inspired the practice of buying and selling shares in the stock market. A minor housecleaning mishap and an exploding cotton apron led to the development of modern explosives and contributed to the photography and movie industries. These and many other stories are found in “Napoleon’s Button’s”: 17 Molecules That Changed History.” This book gives rise to many questions about the advancement of chemistry in modern science. How many other molecules lay waiting to be discovered or created? How will they shape the future? What will we learn from their predecessors? Who will be the next great chemical minds to fashion the chemistry of tomorrow?

**Assignment**

There are 4 parts to this assignment:

1. Read the book “Napoleon’s Buttons: 17 Molecules That Changed History” and answer chapter questions
2. Write a draft proposal stating the topic of your research paper
3. Develop a reference list of research that will serve as a work cited page for your research paper
4. Write a 6-8 paged research paper in APA format on one of the following topics:
   1. Choose a historically significant molecule that was not described in the book and write a research paper on how it had an impact on the history of human civilization. Be sure to give chemical AND historical information including, but not limited to the following topics:
      1. How was the compound formed? (scientist who discovered, chemical reaction, compound structure, etc.)
      2. What impact did the discovery of this compound have on history?
      3. How might our world have been different had this compound not been discovered?
      4. Is there any controversy surrounding this compound? Discuss.
   2. Research a molecule that has only recently begun to affect our world. It may be a well-known molecule whose useful properties are only just being realized, or a new molecule recently created in a laboratory. Speculate on how this molecule may affect history in the years to come. Support your speculations with research on similar molecules of the past. Be sure to give chemical AND historical information on the compound.

**Due Dates:**

January 20th: Show me your copy of the book.

February 3rd: Chapter questions for Introduction and chapters 1-3 due

February 17th: Chapter questions for chapters 4-7 due

March 2nd: Chapter questions for chapters 8-11 due

March 19th: Chapter questions for chapters 12-15 due

March 30th: Chapter questions for chapters 16-17 due

April 16th: Draft proposal and reference list due

May 11th: Rough draft due

May 25th: Final draft due

**Chapter Question Guidelines**

1. Answers should be in complete sentences and FULLY answer the question. Most questions cannot be sufficiently answered in just one sentence.
2. Questions AND answers should be typed in 12-point Times New Roman. They do not have to be double spaced, but the questions should be numbered.
   1. Ex) 1. This is the question?

A: This is the answer the above question.

**Draft Proposal Guidelines**

This is a one-page, double-spaced, explanation of the compound that you have researched. You should include some information about the compound including its historical and scientific significance.

**Research Paper Guidelines**

The goal of this paper is to help you continue to research professional and scholarly literature and expand your knowledge of chemistry as a “central science” and its impact on other areas of human lifestyle and culture.

Your task is to choose **one** of the two research topics that you would like to investigate. Similarly to the research paper on Sam Kean’s “The Disappearing Spoon”, I want you to research both scientific AND nonscientific sources. Chemical advances, as you know, do not only affect the science world. Your reference list should have AT LEAST 8 sources OTHER THAN “Napoleon’s Buttons” (this will be your 9th source). 6 of these sources must be from a research journal, scholarly article, or book. Please do not use Wikipedia or other peer-edited websites as sources as these are often unreliable.

**Other Requirements**

1. APA format (including title page, abstract, in-text citations, and reference list)
   1. See: <http://owl.english.purdue.edu/owl/resource/560/01/>
2. 6-8 pages, double spaced, 1-inch margins, 12-point Times New Roman
   1. 6-8 pages does not include title page, abstract, or reference list
3. At least 9 references total (6 must be from a research journal, scholarly article, or book; 1 must be *Napoleon’s Buttons: 17 Molecules That Changed History*)
4. Free of grammatical and spelling errors.