

# Napoleon's Buttons: 17 Molecules that Changed History

by Penny Le Couteur and Jay Burreson

A Chemistry Critical Reading and Research Project  
Integrated Chemistry, Ms. LaRita Williams

## Overview:

*Napoleon's Buttons* is the fascinating account of seventeen groups of molecules that have greatly influenced the course of history. These molecules provided the impetus for early exploration, and made possible the voyages of discovery that ensued. The molecules resulted in grand feats of engineering and spurred advances in medicine and law; they determined what we now eat, drink, and wear. A change as small as the position of an atom can lead to enormous alterations in the properties of a substance—which, in turn, can result in great historical shifts. With lively prose and an eye for colorful and unusual details, Le Couteur and Burreson offer a novel way to understand the shaping of civilization and the workings of our contemporary world. (Publisher's Description)

*Napoleon's Buttons* is divided into seventeen chapters, each examining a group of molecules and discussing that group's impact on historical events. Each chapter contains some "technical" information—the chemistry of the molecules—as well as the historical discussions. The introduction of the book includes a primer on the structures of organic compounds and nomenclature in a refreshingly simple and understandable format. This book was written for the layman—not the scientist—and the presentation of the material makes this book pleasantly readable.

## Reading Assignment

Students will be divided to work in pairs, and each student pair will be assigned one of the seventeen chapters. Every student will be required to read the "Introduction," "Epilogue," and their assigned chapter.

## Video Assignment

- Video:** Plan (research and storyboard), film (including a draft film), and edit an informative video synopsis and explanation of your chapter from *Napoleon's Buttons*. Your video should include the following:
  - A summary of the molecule(s) and its history/"discovery", structure, use, and chemistry as described in your assigned chapter.
  - Major points of impact on historical events (think: social, political, religious, economic, etc.).
  - An account of the molecule's impact in our current era—has the impact changed, faded, become more prominent, etc. You should do some research for current information on your molecule.
  - A quick discussion on whether or not the author's argument makes sense, and why (if so, what points stand out; if not, where do you think their evidence could use improvement?).
  - Optional:* Pick an issue within your topic (molecule) area and analyze how culture and society have and/or are promoting or hindering science with that molecule (or class of compounds). For example, if your topic area is sugar, you may wish to discuss the proliferation of people with diabetes.
- Post:** After completing your final video, post a link to or a file with your video to the class's Canvas discussion board.
- Discussion Board Comments**—Everyone will view the posts of fellow classmates and comment on any two of them. Comments should not just be an "ooh ahh" comment, but a disagreement, supplement to their ideas, personal anecdote, reflection, etc. Each comment should be 4-6 sentences in length.

## Timeline and Due Dates

- DUE October 17<sup>th</sup> - Answered questions on the book's Introduction (Handout)
- DUE November 1<sup>st</sup> - Answered questions on the assigned chapter (Handout)
- DUE November 10<sup>th</sup> - Video Storyboard (Handout)
- DUE December 1<sup>st</sup> - Completed Video Draft
- DUE December 8<sup>th</sup> - Completed Final Video Project (including link/file on Canvas)
- DUE December 9<sup>th</sup> - Discussion board comments

## Grading Rubric

<b>Categories</b>	<b>Expectations</b>	<b>Points Possible</b>
Content	Main ideas are thoroughly supported with evidence based on the students' research and the provided text. Information is accurate and without error.	15
Organization	Ideas are clearly presented and are easy to follow. An effective introduction to capture the audience's attention and conclusion that effectively summarizes the main points are apparent.	10
Quality	Materials are well planned, attractive, and neat. Visual information enhances the content. Audio is well edited and easily audible by the audience, or subtitles are effectively used. Immense dedication to excellence in work is apparent.	10
Creativity	Video style is original and imaginative in its approach. Students effectively use editing tools to create the video, including employing varied shots, text overlays, music, etc.	5
Timing	Final video meets time requirements (2 minutes minimum) and restrictions (3 minutes maximum)	5
Cooperation	Student displays an equal share of the work for the video collaboration project and appears to work effectively and respectfully with partner to create a great video.	5
TOTAL		50