

# AP Chemistry

## 2018 Summer Reading

Dunwoody High School

### *NAPOLEON'S BUTTONS*

#### *17 Molecules That Changed History*

by Penny Le Couteur & Jay Burreson

(Non-fiction text which can be found in our local libraries, however I strongly recommend purchasing a copy so you can mark it up and keep notes!)

#### **Tasks:**

1. Graphic Anticipatory Sets
2. Summarizing Disputable Questions

**Due Date:** Monday, August 6<sup>th</sup>, 8:00am – Room 1704 – Mr. Cameron's Room

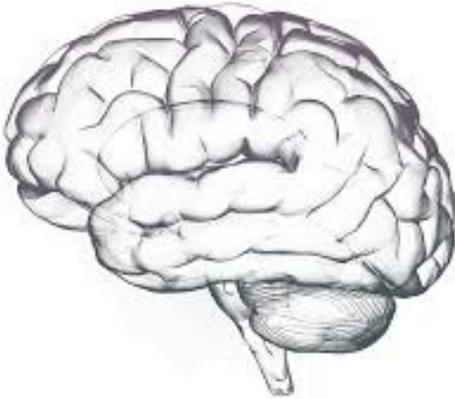
**Time Requirement:** This book is 17 chapters long. Each chapter is not long and is not difficult to read. But by waiting until the last minute, you will be crunched for time and will not put forth your best effort for your first grade in AP Chemistry. This assignment is designed to give you an opportunity to get a good grade to start a difficult class. Please take advantage of this assignment by putting forth your best effort.

**Project Rationale:** In December of 1812, Napoleon's army consisting of 600,000 men was marching toward Russia. His Forces up until this time had been unmatched and undefeated. One reason for the downfall of unstoppable French army was army uniforms themselves. All of the army's clothing, spanning from the highest general to the most lowly private, had tin buttons sewn on to their uniforms. When exposed to the bitter cold, as Napoleons army encountered in Russia, tin disintegrates into a fine powder. Was the army, as their buttons and uniforms fell apart, so weakened by the cold that it could not function? Were men using their hands to hold together their garments instead of carrying vital supplies? Could the disintegration of something as small as a tin button led to the downfall of one of the greatest armies throughout history? (Le Couteur & Burreson 1-19)

Chemicals and chemistry are an integral part of our daily life. This book takes a look at chemistry in a way that puts into perspective the importance of what we will be trying to learn throughout the year.

In addition to learning and connecting chemistry concepts, you will be mastering reading skills with each chapter of this high-level non-fiction text. Anticipatory graphics will urge you to infer and predict before reading and will promote connection and retention during reading. By disputing the summarizing questions, you will outline explicit text ideas, utilize new vocabulary, and connect points of the text to concepts covered in class.

**Task 1:** For each chapter of the book you have been provided with a graphic. After reading the chapter you will write a well-developed paragraph that summarizes the chapter AND tells how the picture relates to it. Please copy and paste each image and place it next to each appropriate summary paragraph.

<p><b>Chapter 1- Peppers, Nutmeg, and Cloves</b></p> 	<p><b>Chapter 2 – Ascorbic Acid</b></p> 
<p><b>Chapter 3 - Glucose</b></p> 	<p><b>Chapter 4 - Cellulose</b></p> 

**Chapter 5 – Nitro Compounds**



**Chapter 6 – Silk & Nylon**



**Chapter 7 – Phenol**



**Chapter 8 – Isoprene**



**Chapter 9 – Dyes**



**Chapter 10 – Wonder Drugs**



**Chapter 11 – The Pill**



**Chapter 12 – Molecules of Witchcraft**



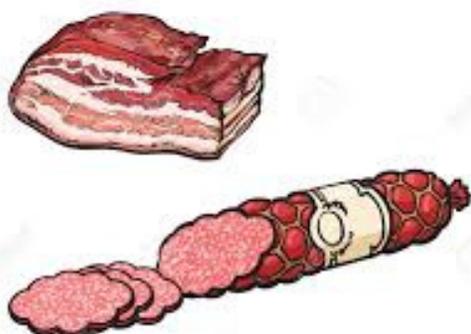
**Chapter 13 – Morphine, Nicotine, and Caffeine**



**Chapter 14 – Oleic Acid**



**Chapter 15 – Salt**



**Chapter 16 – Chlorocarbon Compounds**



## Chapter 17 – Molecules Versus Malaria



**Task 2:** The following is a list of “disputable statements,” one or two for each chapter. After or during the reading of each chapter, consider the statement and dispute it.

- Type 1-2 paragraphs to dispute the statement using the chapter information
- Provide at least THREE quotes from the chapter that supports your dispute
- Underline each quote and indicate (in parentheses) the page(s) where it was found.

### Chapter 1 – Peppers, Nutmeg, and Cloves

Dispute #1: Spices like cloves, nutmeg and peppers were only important to humans to provide flavor to food.

Dispute #2: By tasting spices like nutmeg and cloves, you can tell that they are clearly completely different chemicals.

### Chapter 2 – Ascorbic Acid

Dispute: Ascorbic acid did not play a role in the discovery of new lands.

### Chapter 3 - Glucose

Dispute: Trade routes and trade of humans have not been affected by humans like for sugar.

**Chapter 4 - Cellulose**

Dispute: The structure of cellulose and the structure of starch are identical.

**Chapter 5 – Nitro Compounds**

Dispute: The positioning of nitrogen groups on larger molecules does to affect how a molecule reacts.

**Chapter 6 – Silk and Nylon**

Dispute: The production of nylon is primarily for use in nylons that women wear.

**Chapter 7 – Phenol**

Dispute: Phenol production has led to a large plastics industry that has only had a detrimental effect on humans.

**Chapter 8 – Isoprene**

Dispute: Rubber is rubber.

**Chapter 9 – Dyes**

Dispute: The use of dyes to color our clothes is a recent discovery.

**Chapter 10 – Wonder Drugs**

Dispute: Aspirin is a drug created by the Swiss, derived from the cellulose from an Indonesian island.

**Chapter 11 – The Pill**

Dispute: The discovery of The Pill has had no social ramifications.

**Chapter 12 – Molecules of Witchcraft**

Dispute: Witches created magic through potions they created using native plants.

**Chapter 13 – Morphine, Nicotine, and Caffeine**

Dispute: Caffeine has always been available and accepted through societies.

**Chapter 14 – Oleic Acid**

Dispute: Olive oil played no part in the greatness of the Greek society.

**Chapter 15 – Salt**

Dispute: Salt as we know it has always been accessible and inexpensive.

**Chapter 16 – Chlorocarbon Compounds**

Dispute: Lucky for humans, the chlorocarbons we use as a propellant our in aerosols have no effect on our environment.

**Chapter 17 – Molecules Versus Malaria**

Dispute: Quinine, DDT and Hemoglobin are unique compounds and have no connection.

## Format

### For Each Chapter

- Write a summary for the chapter and connect your summary to the provided graphic
- Cut and paste the graphic next to your summary paragraph
- Write your response to “disputable statements”
- The entire document should be typed in a word processor (i.e. Word, Google Doc, etc.)
- 12 font, 1 inch margins
- Please proofread your document for spelling and grammatical ~~mistakes~~ mistakes.
- Your document will be at the beginning of the school year. Your document should be printed.

### Sample Page

Chapter # - Chapter Title	
Copy of Provided Graphic	Written Chapter Summary Summary Connects to the Provided Graphic
Disputable Statement(s) for Chapter 2-3 Well Written Paragraphs Direct Quotes from the Book to Dispute the Provided Statement All Quotes are Underlined and Page Numbers are Referenced in (Parenthesis)	