

Welcome to 10<sup>th</sup> Honors STEM Literature!

This course is designed to explore your interest in STEM curriculum while enhancing your understanding and enjoyment of literature, as well as the accompanying language arts skills of story-telling, writing, analysis, and research. The summer reading assignments for this course are intended to support your interest in science, math, and engineering through the use of literature that explores STEM related topics.

Below are the two required readings with the assignments with due dates. We will also use these books for additional activities and discussions during the first weeks of the school year.

Please contact me at the e-mail address listed below with any questions or issues. I will be travelling this summer but will respond as soon as I can. [jacqueline.vance@cherokee.k12.ga.us](mailto:jacqueline.vance@cherokee.k12.ga.us)

Required Reading:

1. *The Poisoner's Handbook* by Deborah Blum
2. *The Martian* by Andy Weir

You will complete **EACH** of the assignments below:

I. *The Poisoner's Handbook* by Deborah Blum. Answer all questions in complete sentences.  
**DUE:** Wednesday, August 15, 2018 before 11:59 pm.

**Type your answers. This assignment will be submitted to turnitin.com through Canvas. Your instructor will give you directions during the first week of school.**

### **Chapter 1 : Chloroform**

1. What could be found in the nursing dispensary as described in this chapter?
2. How does Mors describe the odor of chloroform?
3. Chloroform used to be used as an anesthesia. Why isn't it still popular for this purpose?
4. What problems existed when trying to prove someone was poisoned by chloroform?

### **Chapter 2: Wood Alcohol**

1. How are wood alcohol and ethyl alcohol chemically different?
2. How can wood alcohol be synthesized?
3. What metabolite is so poisonous- that comes from wood alcohol?
4. Why did Getter and Norris predict that wood alcohol poisonings would increase?

### **Chapter 3: Cyanides**

1. What did Norris and Gettler figure out about the death of the Jacksons?
2. Why did the prosecutors fail to win a conviction?
3. Why was Prohibition considered "a joke" by a Brooklyn Magistrate?
4. How was cyanide used in artistry?

### **Chapter 4: Arsenic**

1. Why was arsenic given the nickname "the inheritance powder" ?

Please Note: Summer Reading Rationale and Standards are available upon request.

2. Almost anyone could acquire arsenic with little effort in the early 1900s. Where did they find it?
3. Look up Scheele's Green and Paris Green. What are these solutions?
4. What effect does low level arsenic poisoning have on the skin?

### **Chapter 5: Mercury**

1. What is a cinnabar? What does it look like?
2. What is the common name for Mercury, named after a Roman god?
3. How did Olive Thomas die (and who was she)?
4. Many tests for metals are based on the Activity Series. Where is Mercury in the activity series of metals?
5. What is the mercury compound in calomel and how is it different than bichloride of mercury?

### **Chapter 6: Carbon Monoxide (P1)**

1. Describe the phase transitions of carbon dioxide at normal pressures. What phases exist and at what temperature do phase transitions take place?
2. How can a medical examiner tell the difference between a death by suffocation and a death by carbon monoxide poisoning?
3. What changed about household gas since 1920 to make it less lethal?
4. Why did Norris celebrate the verdict "not guilty" for Travia?

### **Chapter 7: Methyl Alcohol**

1. What does it mean to denature alcohol?
2. What were some of the contaminants found in alcohol from speakeasies in 1927?
3. What distinction does the author make between wood alcohol and methanol?

### **Chapter 8: Radium**

1. Why did Radium become a popular cure-all?
2. Briefly state the facts of the Radium Dials and how they led to the deaths of the girls who painted them.
3. What gas did the girls poisoned by Radium exhale?
4. What was Norris' role in the cover-up?

### **Chapter 9: Ethyl Alcohol**

1. What is Jakes' leg?
2. What other organophosphate does Blum mention in this chapter?
3. What is the natural percent ethyl alcohol content of the brain?
4. How did a "drunk-o-meter" work? What is the modern day equivalent?
5. How does the body of an experienced drinker metabolize alcohol differently than the body of a novice drinker?
6. What brought the safety of Radium to the public's attention?

### **Chapter 10: Carbon Monoxide (P2)**

1. Why was Mike Malloy given the name "Mike the Durable"?
2. List two substances that researchers found in tobacco smoke in the 1920s.
3. What are some environmental hazards that can raise the blood levels of carbon monoxide?

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4. What happens to carbon monoxide levels in the body after death?

### Chapter 11: Thallium

1. This chapter really tells the story of the birth of the FDA. What was the FDA like in 1935? What were some of the poisonous products routinely sold to Americans?
2. How is the name "thallium" related to its atomic emission spectra?
3. In 1938, Roosevelt signed the Food, Drug, and Cosmetic Act. What did this Act proclaim?
4. How had the role of forensic toxicology changed in the first versus the second trial of Mary Creighton?

## II. *The Martian* by Andy Weir

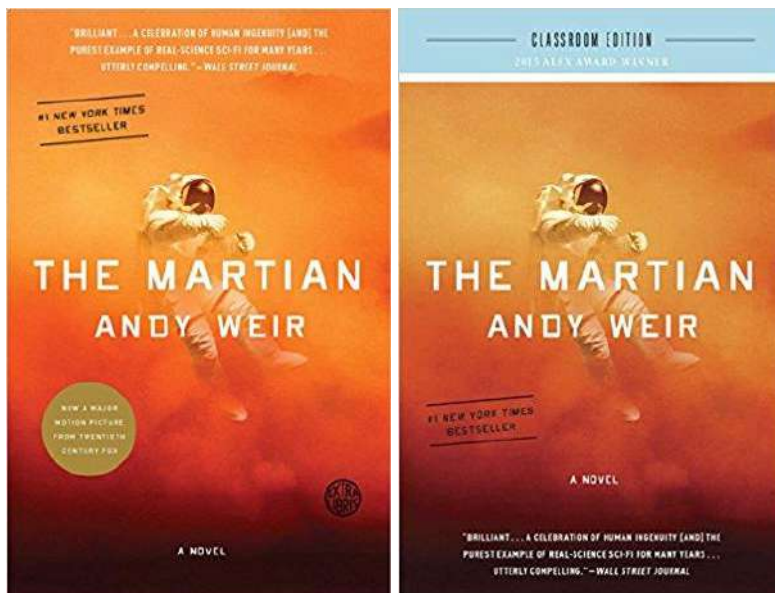
DUE: Friday, August 24, 2018 before 11:59 pm

### Versions of *The Martian*:

There are 2 versions of this book: the original version and the classroom edition. Both tell the same story in the same way. However, the classroom edition, which is the suggested version, has been edited to remove profanity. Keep in mind, the summer assignment can be completed with either version if you have already purchased and/or read the original. Both can be found through Amazon, Barnes & Noble, and other bookstores. The classroom edition is marked with a blue banner at the top of the cover.

#### [Original Version](#)

#### [Classroom Edition](#)



Please Note: Summer Reading Rationale and Standards are available upon request.

Description: *The Martian* by Andy Weir follows astronaut Mark Watney after being stranded on Mars. The novel is full of science, math, and engineering concepts and explores themes related to ethics, creativity, and exploration all woven into a gripping story of survival.

Note about the differences between the book and the movie: Although the movie version of *The Martian* follows the same storyline as the book, the chemistry details presented in the novel are much more in-depth and much more clearly explained. In order to successfully complete the assignments, tasks, and projects you will need to understand the depth of explanation that is in the book.

Assignment: Dialectical Journal. See handout. Students pull quotations and respond in a paragraph or two.

### DIALECTICAL JOURNALS

The term “Dialectic” means “the art or practice of arriving at the truth by using conversation involving question and answer.” Think of your dialectical journal as a series of conversations with the texts we read during this course. The process is meant to help you develop a better understanding of the texts we read. Use your journal to incorporate your personal responses to the texts, your ideas about the themes we cover and our class discussions. You will find that it is a useful way to process what you’re reading, prepare yourself for group discussion, and gather textual evidence for your Literary Analysis assignments.

#### **PROCEDURE:**

- As you read, choose passages that stand out to you and record them in the left-hand column of a T-chart (*ALWAYS include page numbers*).
- In the right column, write your response to the text (ideas/insights, questions, reflections, and comments on each passage)
- You **must** label your responses using the following codes:
  - (Q) Question – ask about something in the passage that is unclear
  - (C) Connect – make a connection to your life, the world, or another text
  - (P) Predict – anticipate what will occur based on what’s in the passage
  - (CL) Clarify – answer earlier questions or confirm/disaffirm a prediction
  - (R) Reflect – think deeply about what the passage means in a broad sense – not just to the characters in the story. What conclusions can you draw about the world, about human nature, or just the way things work?
  - (E) Evaluate - make a judgment about the character(s), their actions, or what the author is trying to say
- All journals will be submitted to [www.turnitin.com](http://www.turnitin.com) and must be typed in order to be submitted.

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**Sample Dialectical Journal entry: THE THINGS THEY CARRIED by Tim O'Brien**

Passages from the text	Pg#s	Comments & Questions
“-they carried like freight trains; they carried it on their backs and shoulders-and for all the ambiguities of Vietnam, all the mysteries and unknowns, there was at least the single abiding certainty that they would never be at a loss for things to carry”.	Pg 2	(R) O'brien chooses to end the first section of the novel with this sentence. He provides excellent visual details of what each soldier in Vietnam would carry for day-to-day fighting. He makes you feel the physical weight of what soldiers have to carry for simple survival. When you combine the emotional weight of loved ones at home, the fear of death, and the responsibility for the men you fight with, with this physical weight, you start to understand what soldiers in Vietnam dealt with every day. This quote sums up the confusion that the men felt about the reasons they were fighting the war, and how they clung to the only certainty - things they had to carry - in a confusing world where normal rules were suspended.

**CHOOSING PASSAGES FROM THE TEXT:**

Look for quotes that seem significant, powerful, thought provoking or puzzling. For example, you might record:

- Effective &/or creative use of stylistic or literary devices
- Passages that remind you of your own life or something you've seen before
- Structural shifts or turns in the plot
- A passage that makes you realize something you hadn't seen before
- Examples of patterns or archetypes: recurring images, ideas, colors, symbols or motifs.
- Passages with confusing language or unfamiliar vocabulary
- Events you find surprising or confusing
- Passages that illustrate a particular character or setting

**RESPONDING TO THE TEXT:**

You can *respond* to the text in a variety of ways. The most important thing to remember is that your observations should be *specific and detailed*. You can write as much as you want for each entry.

**Basic Responses**

- Raise questions about the beliefs and values implied in the text
- Give your personal reactions to the passage
- Discuss the words, ideas, or actions of the author or character(s)
- Tell what it reminds you of from your own experiences
- Write about what it makes you think or feel
- Agree or disagree with a character or the author

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**Sample Sentence Starters:**

I really don't understand this because...  
I really dislike/like this idea because...  
I think the author is trying to say that...  
This passage reminds me of a time in my life when...  
If I were (name of character) at this point I would...  
This part doesn't make sense because...  
This character reminds me of (name of person) because...

**Higher Level Responses**

- Analyze the text for use of literary devices (tone, structure, style, imagery)
- Make connections between different characters or events in the text
- Make connections to a different text (or film, song, etc...)
- Discuss the words, ideas, or actions of the author or character(s)
- Consider an event or description from the perspective of a different character
- Analyze a passage and its relationship to the story as a whole

**Variations on the Dialectical Journal Format**

- **Metacognitive Journal** – what I learned/how I figured it out (incl. pg. #s)

**Synthesis Journal** – at the end of a weekly cycle, consider your Dialectical Journal entries, group work & participation in class discussion. Analyze your overall progress as a reader & writer

**IT IS HIGHLY SUGGESTED THIS ASSIGNMENT BE COMPLETED DURING THE SUMMER. ELEMENTS OF THE STORY WILL BE DISCUSSED DURING THE FIRST FEW WEEKS OF SCHOOL. IF YOU CHOOSE NOT TO COMPLETE IT OVER THE SUMMER, YOU WILL HAVE A FEW WEEKS TO DO SO AFTER THE START OF SCHOOL, BUT KEEP IN MIND YOU WILL ALSO BE RESPONSIBLE FOR ANY OTHER ASSIGNMENTS GIVEN DURING THOSE FIRST FEW WEEKS.**

Credits: Questions for *The Poisoner's Handbook* were modified from Richter's copy on the Cobb County School District website under fair use guidelines. Questions for *The Martian* are modified from Penguin Reader under fair use guidelines.