Students will read the book *Survival of the Sickest*; ISBN 978-0-06-088965-4 (this book is available for the kindle and other readers; there are copies of the book in the school’s media center) and will complete the following assignment pertaining to the book. Students are to read all sections of the book and are to write a summary of each section, by answering the questions listed below. (The summaries are to be typed 12 font and in paragraph form). Rubric Attached

**Introduction:** Read

**Chapter 1:** Ironing It Out
1. What is hemochromatosis?
2. Describe how your body metabolizes iron and why is it necessary.
3. What is the connection between hemochromatosis and Alzheimer’s disease?
4. Explain how hemochromatosis is inherited and by whom.
5. Why was hemochromatosis selected for?

**Chapter 2:** A Spoonful of Sugar Helps the Temperature Go Down
1. How many people world-wide have diabetes? What is expected to happen to the number by year 2030?
2. What is diabetes?
3. Briefly explain the metabolism of Glucose.
4. Explain the difference between Type I and Type II diabetes.
5. What is gestational diabetes?
6. Explain the authors view as to how diabetes came into the human population.

**Chapter 3:** The Cholesterol Also Rises
1. How is vitamin D obtained? Why is vitamin D necessary? What is the consequence of gaining vitamin D? What is the consequence of too little vitamin D?
2. Why is cholesterol important?
3. When are cholesterol levels higher?
4. What is folic acid and why is it important?
5. What is the largest organ in the body?
6. What is melanin?
7. Explain according to the author why cholesterol rises.

**Chapter 4:** Hey, Bud, Can You Do Me a Fava?
1. What are fava beans?
2. What is G6PD?
3. The gene responsible for G6PD protein production is carried on the? Who is more likely to have a G6PD deficiency?
4. Describe two evolutionary adaptations of plants.

Chapter 5: Of Microbes and Men
1. What is the Guinea worm?
2. What is a parasite?
3. How are organisms interconnected; explain by giving an example of this.
4. Explain one of the host manipulations described in this section.
5. Who was Alexander Fleming and what was his role in controlling disease?

Chapter 6: Jump into the Gene Pool
1. Explain Edward Jenner’s role in the development of vaccinations.
2. How many genes do humans have? How many chromosomes?
3. Which pair of chromosomes determines the gender of an individual? What constitutes a male? Female?
4. Explain the idea that every cell carries the same DNA yet carries out a specific function.
5. What is a mutation? Which mutations affect the organism? Which affect the offspring?
6. Explain the idea of evolution at the molecular level as explained by the author.
7. Explain Barbara Mc Clintock’s discovery of jumping genes.
8. What is all that “junk DNA” anyway?

Chapter 7: Methyl Madness: Road to the Final Phenotype
1. How many American children are overweight?
2. What are the consequences of obesity?
3. Explain the work of the researchers at Duke University.
4. What is methylation of DNA?
5. What is epigenetics?

Chapter 8: That’s Life: Why You and Your iPod Must Die
1. What is Progeria?
2. What is the Hayflick limit?
3. What are telomeres?
4. Cancers have overcome the loss of telomeres; explain how.

Conclusion: Read

******Write a paragraph as to what your thoughts are after reading the book. Include in your conclusion a discussion of the following statement. How does the book, Survival of the Sickest, support this quote by Theodosius Dobzhansky, a noted evolutionary biologist?

"Nothing in biology makes sense except in the light of evolution."
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<td>Conclusion</td>
<td>6-8 sentences explaining view point using 4 examples from the novel; clarity present</td>
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Rubric Attached: Worth five points  
Neatness and Following the format: Worth ten points
| complete sentences; Use of 3rd person. |   |   |   |   |