



# INCARNATE WORD ACADEMY

*A Catholic College Preparatory for Young Women, Est. in 1873*

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## AP BIOLOGY SUMMER READING ASSIGNMENT

I would like you to read this non-fiction book over the summer and keep a reflection journal as you go.

<https://www.simonandschuster.com/books/The-Code-Breaker/WalterIsaacson/9781982115869>

### **The Code Breaker by Walter Isaacson**

When Jennifer Doudna was in sixth grade, she came home one day to find that her dad had left a paperback titled *The Double Helix* on her bed. She put it aside, thinking it was one of those detective tales she loved. When she read it on a rainy Saturday, she discovered she was right, in a way. As she sped through the pages, she became enthralled by the intense drama behind the competition to discover the code of life. Even though her high school counselor told her girls didn't become scientists, she decided she would.

Driven by a passion to understand how nature works and to turn discoveries into inventions, she would help to make what the book's author, James Watson, told her was the most important biological advance since his codiscovery of the structure of DNA. She and her collaborators turned a curiosity of nature into an invention that will transform the human race: an easy-to-use tool that can edit DNA. Known as CRISPR, it opened a brave new world of medical miracles and moral questions.

The development of CRISPR and the race to create vaccines for coronavirus will hasten our transition to the next great innovation revolution. The past half-century has been a digital age, based on the microchip, computer, and internet. Now we are entering a life-science revolution. Children who study digital coding will be joined by those who study genetic code.

Should we use our new evolution-hacking powers to make us less susceptible to viruses? What a wonderful boon that would be! And what about preventing depression? Hmmm...Should we allow parents, if they can afford it, to enhance the height or muscles or IQ of their kids?

After helping to discover CRISPR, Doudna became a leader in wrestling with these moral issues and, with her collaborator Emmanuelle Charpentier, won the Nobel Prize in 2020. Her story is an "enthralled detective story" (Oprah Daily) that involves the most profound wonders of nature, from the origins of life to the future of our species.

## **Guiding Reflection Questions as you read:**

1. Who is the author? What are the author's credentials and how reputable is the author?
2. What kind of research do you think this author had to do in order to write this book?
3. What are some words you don't know or some questions you have? What are some interesting vocabulary words that you have learned from this book?
4. How does the part you read connect with what you already knew about the topic?
5. Which part of the book are you having the most difficulty understanding or connecting with? Why do you think this is?
6. Find a quote that is interesting to you and explain why you chose it.
7. What do you know now that you didn't know before?
8. Does the content in the book affect your life? How so?
9. Of the information you learned, what would you like to share with someone else?
10. Who should or shouldn't read this book and why?
11. Is there a call to action or a caution within this book?
12. Now that you've read this book, what do you want to learn more about?