

AP Biology Summer Reading - *The Hot Zone* by Richard Preston

You will be reading a book that is “. . . bloodcurdling, and based on truth.” The book is about the Ebola virus. Before you read the book read the attached information about viruses. If you have questions about the assignment, the virus handouts or about the questions below, email me: catherine.raziano@zacharyschools.org

As you read the book, *The Hot Zone*, summarize the chapters as notes for yourself in what you are going to use as your AP notebook. Read and highlight the attached handouts on viruses and put them in the notebook as well. As you read, list and define new scientific terms in your notebook. This is for you to use to study for your 1st test which will include information from the book and the handouts.

Read the questions below before you read the book *The Hot Zone*. **Answer the questions listed below on a separate piece of paper, typed or hand-written. Your responses to the questions are due on the first day of class.** We will discuss the book and viruses on the 1st day of class so **bring the book *The Hot Zone* to school for the 1st day of class.**

The new AP curriculum is all about **finding supporting evidence** from what you have read, about doing labs or reading about experiments and being able to **use data to support** hypotheses. I have adjusted the questions about this book to that type of question.

You will also do the Explore Learning Gizmo under the AP Biology Class called Virus Lytic Cycle. Log into Explore Learning and join AP Biology by typing in this code T49QRWZCJ5. The handout of questions and instructions is attached.

Have a great summer – hope you enjoy the book as much as I did!! See you soon!

Questions

1. Describe Monet's symptoms. Did they appear all at the same time or little by little?
2. State and then explain what would you have done if you had been a passenger on the plane with Monet to protect yourself from the disease?
3. What could you have done to help Monet on the plane?
3. Evaluate the section of the book when Monet is being treated in the emergency room. What did Dr. Musoke do that could have contributed to the spread of the disease? Explain
4. Around p. 39 (it probably depends on the type of book you used), the author lists four possible intermediate hosts. What is an intermediate host? Pick any two of the four he lists and give evidence to support the idea that those are intermediate hosts.
5. Who was Peter Cardinal? Describe the steps of the experimental protocol that Gene Johnson used to culture the sample of Peter Cardinal's blood serum to isolate the cause of his death..
6. Describe the experiment and the evidence from the experiment that confirmed that Ebola could travel through the air. What happened in the monkey house in Reston that also supported that idea? Explain.
7. Why do scientists keep diaries of their lab notes? Is this a useful practice? Explain.
8. How did the scientists in the book culture (make more viruses) the Ebola virus? What does culture mean in the previous sentence?
9. There were at least four different samples of Ebola-like virus cultured, what were the samples?
10. Write a list of the steps in the procedure used by Geisbert to prepare samples for the EM.
11. Peter thinks Marburg is not easy to catch. Make a list of evidence to support his hypothesis.
12. Dan thinks that Marburg is an airborne infection. Make a list of evidence to support his hypothesis.
13. What could Jarhrling do to test to see if the monkey virus reacted in humans? What did it mean if the cells were glowing?
14. Summarize Col. Nancy Jaax's arguments answering General Russell's questions as to whether there was any evidence that the virus was airborne. What could you add to her argument?

15. Tom resolves to keep working even if he tests positive for the virus. How would you have reacted under these same circumstances? What other plans would you make about your life if you had been in Tom's shoes?
16. Ebola and other similar viruses are said to "hide". How and where does a virus strain "hide" ? What evidence supports your answer?
18. Given what you know about this case and what happened to the people involved, if you were President of the US at the time, who would you have promoted and who would you have gotten fired? Explain why you would make those decisions?
19. What factors make Kitum Cave "a nice place for a virus to jump species?" Give evidence to support each of your factors?
20. Based on this true story of Ebola, what is your opinion about viruses – are they living or non living – use facts from the book to support your answer.
22. Based on the information in the book and in the handout, what type of viral life cycle do Ebola have? What facts from the book support your statement?