

Honors Biology Summer Packet

2019-2020

Ms. Chorman

School email: sommer.chorman@irsd.k12.de.us

(contact me by email or, even better, the Remind App if you have any questions) - must have school contact form turned in

I'm sure you are sitting around the house bored out of your mind trying to think of something exciting and different to do this summer. Boy, do I have the activities for you.

This summer you will delve into the world of biology like you never thought you would! We will explore many topics to whet your appetite for the coming year of hard work. This summer assignment has been designed for six purposes:

1. To get you thinking about the world around you from a biological perspective.
2. To keep your mind sharp, because I will expect a lot out of it come September!
3. To help you show me your commitment to this course and the independent work it will require.
4. To have you earn some strong grades to help you begin the first quarter with confidence.

ASSIGNMENT # I: LETTER OF INTRODUCTION

Welcome to Honors Biology! I want you to be able enjoy this class and feel successful this year. I believe my job is to help you succeed the best I can. In order to help you I would like to get a head start on getting to know you. Your first assignment is to successfully send me a formal letter of introduction via Schoology. Please read the guidelines below and submit me your letter on Schoology by June 30, 2019.

1. Use clearly written, **full sentences**. Do not abbreviate words like you are texting to a friend. Use **spell check!** This is a professional communication like you would have with a college professor, so let's practice for your rapidly nearing future! (6 pts)
2. Address it to me: Ms. Chorman (1 pt)
3. Make the **Subject**: "**Honors Bio: Introduction to <Insert Your Name Here>**" (1 pt)
 - a. (Do not include the quote marks or the brackets, just your name)
4. Begin the letter with a **formal salutation**, like "Ms. Chorman," or "Dear Ms. Chorman," (1 pt)

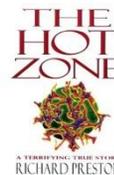
5. Now introduce yourself (your name) and tell me a little bit about yourself, like: (12 pt)

- What do you like to do (hobbies, sports, music, interests, etc.)?
- Do you have a job?
- Do you drink coffee or have some other favorite drink?
- Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?) What do your parents/guardian do for a living?
- What are your plans for the future/next year/after graduation/career goal?
- What was the last book you read for fun?
- What are your strengths and weaknesses as a student?
- Tell me something about yourself that you are proud of.
- What are your greatest concerns about taking Honors Biology?
- What other time commitments will you have this year in addition to Honors Biology?
- Was there anything that you liked about your last science class (ex. Physical Science)?
- Is there anything else you would like me to know about you?

6. End the e-mail with a **formal closing**: “Cordially”, “Sincerely”, “Warm regards”, etc. and add your name as if you signed a letter. (1 pt)

ASSIGNMENT #2: PLAGERISM TUTORIAL

This tutorial will serve as instruction to let you know what is considered cheating, plagiarism, or appropriate for school use. The inclusion of the tutorial has become necessary since I have observed numerous instances of cheating and plagiarism in my classroom in the past year. This is unacceptable in any high school classroom.



ASSIGNMENT #3: SUMMER READING

***THE HOT ZONE: A TERRIFYING TRUE STORY* by Richard Preston**

This is not textbook reading! Your summer reading is an exciting book about science. Yes, there are people who love science so much that they spend their time researching and writing books about it and there are people who love science even more that they spend their time reading these science books. You too may become one of these people.

A bit about *The Hot Zone*:

Viruses that entered our headlines this year were the Influenza virus - it was a brutal year for the flu. Ebola is a virus just like the flu.

The Ebola virus kills nine out of ten of its victims so quickly and gruesomely that even biohazard experts are terrified. It is airborne, it is extremely contagious, and in the winter of 1989, it seemed about to burn through the suburbs of Washington D.C.

The Hot Zone tells this dramatic story in depth, giving a hair-raising account of the appearance of rare and lethal viruses and their outbreaks in the human race. From a remote African cave, hot with Ebola virus, to an airplane over Africa that is carrying a sick passenger who dissolves into a human virus bomb, to the confines of a Biosafety Level 4 military lab where scientists risk their lives studying lethal substances that could kill them quickly and horribly.

The Hot Zone describes situations that a few years ago would have been taken for science fiction. As the tropical wildernesses of the world are destroyed, previously unknown viruses that have lived undetected in the rain forest for eons are entering human populations. The appearance of AIDS is part of a larger pattern, and the implications for the future of the human species are terrifying.

Below are 50 questions based on *The Hot Zone* by Richard Preston. As part of your summer assignment for Honors Biology, read the book and **answer all** of the questions given – most questions have multiple parts.

Here are a few guidelines:

- Your answers need to be typed.
- Write the Chapter title *and* the question number – you do not need to rewrite the question.
- All answers must be in your own words using proper terminology. *Do not copy from a Web site.*
- Before you turn the completed assignment in, make sure to check for spelling and grammatical errors.
- This is **NOT** a Group Assignment!

You WILL HAVE A TEST on *The Hot Zone* on the FIRST DAY of SCHOOL.

SOMETHING IN THE FOREST

1. Charles Monet gets very sick in the beginning of the epidemic. List the symptoms, and progression of the Ebola virus that he contracted. List the symptoms of the Influenza virus.

JUMPER

2. What is the name of the doctor who treats Charles Monet? Describe the tools he uses to find out what is wrong.
3. What is listed as Monet's official cause of death? What disease are red eyes often a sign of?

DIAGNOSIS

4. How many people did the 1967 outbreak of Marburg affect and who was the first victim? What was the fatality rate of Marburg? When was the worst outbreak of Influenza?
5. What everyday shape is a virus particle of Marburg compared to in the book? List the other main shapes of viruses. What is the shape of the Influenza virus? The norovirus?

A WOMAN AND A SOLDIER

6. Why does the Army need veterinarians and how much education is required to become a vet?
7. Nancy Jaax cuts herself in the kitchen. How does this foreshadow the events to come, and what kind of reaction and emotion does it signify on her part? How would you react?

PROJECT EBOLA

8. Anthrax is quite deadly, so why is it referred to as "safer" than Ebola? Which system is attacked first? Why is this important? How many deaths are attributed to Influenza so far? (at the time you are writing your answer)
9. What does USAMRIID stand for? How many biocontainment levels are in USAMRIID? Why are there different levels?

TOTAL IMMERSION

10. Viruses are so small, it is difficult to visualize. How big is the HIV virus in nanometers? How many HIV viruses can fit on the period at the end of a sentence? Which is the largest – HIV, Ebola or the flu?
11. What is the "first line of defense" against a hot agent? What are viruses made of?

EBOLA RIVER

12. It is valuable to know the vectors of a disease. What are some of the possible vectors for Ebola Zaire? Is there a vector for norovirus?
13. What is the characteristic shape they notice? What is the difference between Ebola Zaire and Ebola Sudan? What are the implications if Ebola is airborne? Can the norovirus be spread through the air?

CARDINAL

14. As the courier passed the sample of Peter Cardinal's blood to Gene Johnson at the airport, think about how this would take place in today's airports. What would have been different?
15. How was the sample stored for safety handling? How many levels of physical and biological protection were there? What BioSafety Level is the Influenza virus? The norovirus?

GOING DEEP

16. Describe the experiment in 1988 that confirmed that Ebola could travel through the air.
17. Describe what the U.S. Army scientific team members wore in Kitum Cave to protect themselves. What other kinds of equipment did they carry to increase their safety?

RESTON

18. What kinds of monkeys were kept at the Reston Monkey House? Who is Dan Delgard?

INTO LEVEL 3

19. What characterizes the safety conditions in a Level 3 facility?
20. How did they culture the virus? There were at least four different samples, what were they?

EXPOSURE

21. What is Pseudomonas and how does it live? What is its characteristic smell?
22. Why was it a mistake for Geisbert and Jahrling to smell the flask?

MEDUSA

23. How did Thomas Geisbert determine that the cells under his microscope were a form of Ebola? What were some of the possible modes of infection?
24. What are inclusion bodies? What are bricks and why are they so dangerous? In retrospect, what was the “pepper” that Tom had seen under the light microscope?

THE FIRST ANGEL

25. What convinced Geisbert that the substance was Marburg? Why is the virus called “Marburg”?
26. Neither Peter nor Tom mention the “sniffing incident” to CJ, Why not? Would you have mentioned it? Why or why not?

THE SECOND ANGEL

27. What did the evidence from monkey 053’s cells show?
28. What were the safety precautions Dalgard had already implemented and then what were the new ones he had to implement?

CHAIN OF COMMAND

29. How would you answer Gen. Russell’s questions about evidence for the virus being airborne? Summarize Col. Nancy Jaax’s arguments. Did she miss anything?
30. What are three ways to eliminate a virus? What is a vaccine? Is there a vaccine for the Ebola virus? Is there one for the norovirus?

GARBAGE BAGS

31. Why was Dalgard so afraid of Peters and of letting outsiders into the monkey house?
32. A comparison to AIDS is made here. Compare the deaths from AIDS to date (June 2018) with the 100 million predicted in this 1993 book.

SPACE WALK

33. Going into a Level 4 Zone is a serious ordeal; describe the steps taken prior to going into a Level 4 zone. Would you be interested in becoming a virologist and going into a Level 4 “Hot Zone” or would you leave this job for someone else?
34. How does the author characterize the states of order and disorder in life and death terms? Why are viruses an exception to this rule?

MISSION

35. Why is Kitum Cave so important to the story? Explain how the monkey house was like Kitum Cave.

RECONNAISSANCE

36. Bill Volt wasn't concerned about being in the monkey house, explain why. Do you think his opinion changed when Gene Johnson and Sergeant Klages were afraid to touch things in his office?
37. Describe the conditions of the Monkey House upon the team entering the building.

INSERTION

38. Describe the decontamination process upon leaving the monkey house.
39. What are the similarities between the Reston Monkey House and Kitum Cave as habitats for living organisms? How far is Reston, Virginia from Lawrence?

A MAN DOWN

40. Who is Milton Frantig? What happened to him?

TANGOS

41. How many monkeys occupied the building?
42. What are some problems you, personally, would experience wearing a space suit?

INSIDE

43. What happened to Rhonda Williams?
44. How does a pressure suit work to keep viruses away from your body? How did this protect Rhonda?

A BAD DAY

45. What significant event happened on Wednesday, December 6th?

DECON

46. What was the sentinel species used to see if the place was really clean? Research this species to find out why it is so hard to kill off. Name two more microbes that are very hard to kill.

THE MOST DANGEROUS STRAIN

47. How did Ebola travel throughout the building? What was scary about it?
48. How did the symptoms of Ebola Reston compare to Zaire? How do they both compare to the Influenza virus in the method of transmission?

HIGHWAY

49. Describe the road to Mount Elgon. What is the significance of this road? Why is the Kinshasa Highway referred to as the AIDS Highway?

CAMP

50. What is the final message that the author leaves us with? After reading the book - how do you now feel about your personal safety when it comes to being infected by a dangerous virus? What if you are in another country?

ASSIGNMENT #4: EVOLUTION: THE UNIFYING THEME OF BIOLOGY

“The theory of evolution explains how the immense variety of living things on Earth has developed from ancestral forms during the past three billion years. This theory is considered to be the most important unifying idea in biology” (Miller/Levine, 1). Every concept we learn this coming school year can be used in one form or another to support or explain evolution. This assignment will provide you with an introduction to the topic.



Sign up for important updates from Ms. S. Chorman.

Get information for Indian River High School right on your phone—not on handouts.

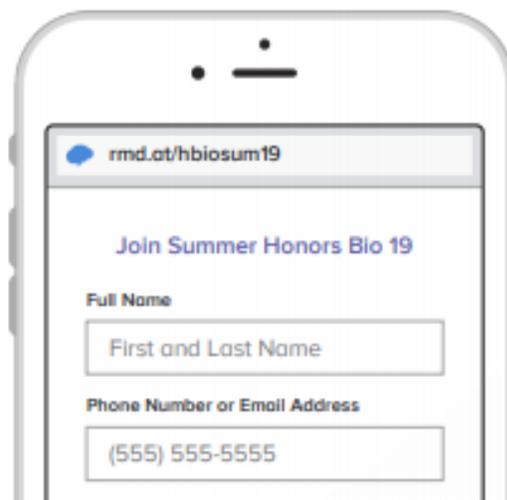
Pick a way to receive messages for **Summer Honors Bio 19**:

A If you have a smartphone, get push notifications.

On your iPhone or Android phone, open your web browser and go to the following link:

rmd.at/hbiosum19

Follow the instructions to sign up for Remind. You'll be prompted to download the mobile app.

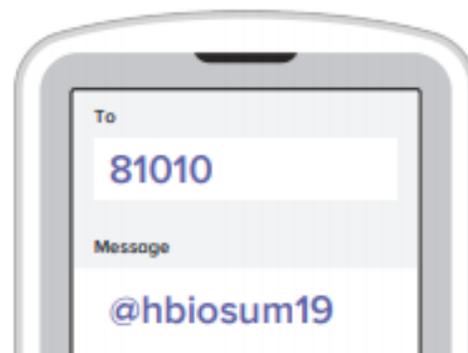


B If you don't have a smartphone, get text notifications.

Text the message [@hbiosum19](#) to the number 81010.

If you're having trouble with 81010, try texting [@hbiosum19](#) to (302) 482-4012.

* Standard text message rates apply.





Course Options

Materials

- Updates
- Gradebook
- Grade Setup
- Mastery
- Badges
- Members
- Analytics
- Workload Planning
- Conferences
- eSchoolPLUS
- Home Access Center
- PlayPosit (fka eduCano...)
- UD Lib

Access Code
GX9D6-6H3B7 Reset

Information

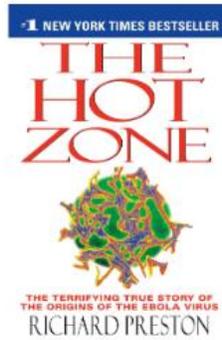
Grading period
Summer 2019

SummerIRHS: Honors Biology 2019 (Chorman)

Honors Biology Summer Assignment 2019-20

Add Materials Options

- Do This First!
Set up the "Remind" app using the instructions on the attached file inside this folder.
- Summer Assignment
- Assignment # 1: Letter of Introduction
- Assignment #2: Plagiarism Tutorial
- Assignment #3: Summer Reading: The Hot Zone - Ebola in the News (additional resources)



- Assignment # 4: Evolution: The Unifying Theme of Biology

Scoring and Due Dates

- Do This First!
 - Sign up for the Remind App
 - (Due by June 6, 2019)
- ASSIGNMENT # 1: LETTER OF INTRODUCTION
 - (Due by June 30, 2019)
 - Total Points for this section = 22
- ASSIGNMENT #2: PLAGERISM TUTORIAL
 - (Due by July 14, 2019)
 - Total Points for this section = 10
- ASSIGNMENT #3: SUMMER READING
 - (Due by First Day of School)
 - Total Points for this section = 100

Here are a few guidelines:

- Your answers need to be typed. (-5 pts)
- Write the Chapter title *and* the question number – you do not need to rewrite the question. (1 pt. per question)
- All answers must be in your own words using proper terminology. *Do not copy from a Web site.* This is **NOT** a Group Assignment!
(*zero pts for entire assignment if plagiarized*)
- Before you turn the completed assignment in, make sure to check for spelling and grammatical errors.
- ASSIGNMENT #4: EVOLUTION: THE UNIFYING THEME OF BIOLOGY
 - (Due by First Day of School)
 - Total Points for this section = 28

Total Points = 160 = formative assignment grade

DUE TO THE NATURE OF THIS ASSIGNMENT, NO SUMMER ASSIGNMENTS WILL BE ACCEPTED AFTER THE DUE DATE - NO EXCEPTIONS!

*** Assignments can always be turned in before the Due Dates ***

Note: Plagiarism is considered a violation of the IRHS Honor Code and will be dealt with according to the procedures designated in the student handbook.