

Summer Assignment:

Welcome to Advanced Placement Environmental Science (APES)!

In order to prepare you for this course, the following summer assignments highlight many of the topics we will be discussing throughout the year. APES is a course that encompasses many different areas of study, some of which include biology, chemistry, math, economics, government, and earth science.

You will submit assignments in varying ways, so be sure to read the details below!



Assignment #1: Introduction Letter

Due date: Monday, August 5th, 2019 (one week before school starts)

Turn in method: Email, haley.brown@acsk-12.org

Grade: Quiz

You will write a letter introducing yourself so that I know a little more about you and the needs of our class. The info from these letters will not be shared with the class and are for my purposes only.

Begin the e-mail with a formal salutation, then introduce yourself by responding to the following questions:

- Aside from school, what do you like to do (hobbies, sports, music, interests, etc.)?
- Do you have a job? If so, tell me about your job - what you do, do you enjoy it? What is the most (or least) enjoyable thing about your job? How is it going to prepare you for the future? (hint-there is a positive answer to this question regardless of the job)
- Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?) What do your parents do for a living?
- What previous science classes have you taken? Did you enjoy them? Who were your teachers, and what grades did you get?
- What was the last book you read for fun?
- What are you looking forward to the most in APES?
- What are you most anxious about in APES?
- What are your future education goals?
- Why are you taking APES?
- Do you have any siblings, relatives or friends that have taken APES? If so, what have they told you about the course?

End the e-mail with a formal closing and add your name as if you signed a letter.

Make the Subject: "APES: Introduction to <Insert Your Name Here>"

(Do not include the quote marks or the brackets, just the words)

Assignment #2: Chapter 1 Study Guide

Due date: Monday, August 12th, 2019 (first day of school)

Turn in method: All study guides should be printed and answers should be handwritten. You may pick up a copy from me before school dismisses for the summer or you may print your own. ***(Typed answers will not be graded!)***

Grade: Classwork

Since this course contains a fair amount of material, we are going to get a headstart this summer. This will allow us to have more class time for review and labs. This is also a great way for you to get used to the format of the class. Before we start each chapter, for both this assignment and throughout the year, you will complete a chapter study guide. You will use the textbook (not Google) to find these answers. For the summer assignment, you will need to email me, haley.brown@acsk-12.org, to access the textbook. At the end of this document, you will find the Chapter 1 study guide.

Assignment #3: Threatened/Endangered Species

Due date: Monday, August 12th, 2019 (first day of school)

Turn in method: Schoology

Grade: Test

Select a threatened or endangered species and write at minimum a two-page paper detailing the following information:

- A. the species' scientific name
- B. a picture, photo or drawing of the organism
- C. its complete taxonomic classification (Kingdom, Phylum, Class, Order, Family, etc.)
- D. a description of the organism (physical and behavioral)
- E. its habitat and niche
- F. reasons for its decline
- G. efforts to save it
- H. its current status
- I. predictions for its future
- J. list of references (more than one, and do not rely on Wikipedia or other anonymous sources)



If you have any questions over the summer, do not hesitate to contact me. I hope you have a great summer and I look forward to having you in APES!

Haley Brown

haley.brown@acsk-12.org

Checklist:

- Email introduction letter (haley.brown@acsk-12.org) by 8/5/19
- Email to access textbook
- Completed Chapter 1 Study Guide (on paper with handwritten answers)
- Endangered species paper completed and ready to submit the first day of school

Chapter 1 Study Guide

The Environment and Sustainability

Section 1

1. What is environmental science?
2. How is ecology different from environmental science?
3. How long has life been on Earth? What changes have occurred since then?
4. Identify and describe each of the three principles of sustainability.
 - a.
 - b.
 - c.
5. Define natural capital.
6. How long are we expected to have a perpetual resource?
7. Describe three ecosystem services.
 - a.
 - b.
 - c.
8. Describe full-cost pricing and provide an example.
9. Explain the differences between a more-developed country and a less-developed country. List two countries for each category.

Section 2

10. What is natural capital degradation? Provide an example.
11. List three types of public lands.
 - a.
 - b.
 - c.
12. What is an ecological footprint?
13. Go to: <https://www.footprintcalculator.org/> and complete the ecological footprint calculator. What is your overshoot day? How many Earth's to sustain a lifestyle like yours?
14. What is affluence and how does it impact the environment?
15. Identify and describe each of the three major cultural changes that have occurred.
 - a.
 - b.
 - c.

Section 3

16. What are the major causes of many of today's environmental problems?
 - a.
 - b.
 - c.
 - d.
 - e.
 - f.
17. What is exponential growth? Draw a graph showing exponential growth.
18. Go back and add to question 14 after reading "Affluence and Unsustainable Resource Use".
19. Are environmental issues a big concern for those living in poverty? Why or why not?
20. How is the population affected by poverty? (Read the 'Consider this' box)

21. Describe two ways those in poverty are affected by environmental degradation.
- a.
 - b.
22. How can we reduce poverty?
- a.
 - b.
 - c.
 - d.
23. Read the Math Connection box and complete the problems below (NOTE: you do not change the percent to a decimal, it is understood that the number you plug into the formula is a percentage). Show all work.
- a. Given a 2010 world population growth rate of about 1.30% per year, how long would it take the world's population to double? By what year would this doubling occur?

 - b. If the population growth rate continues at 1.30%, and you are 17 years old now, how old will you be when the population doubles?

 - c. If the doubling time for the world's population is 56 years, what will be the growth rate over this time period?
24. What is nature deficit disorder?
25. Who was Aldo Leopold? What made him so important?
26. What is Tragedy of the Commons? Give an example.

Section 4

27. Define natural, human, and manufactured capital.
- a.
 - b.
 - c.
28. Describe a high-throughput economy.
29. Describe a low-throughput economy.
30. What are subsidies? Who are they beneficial to?
31. What is GDP?

Section 5

32. What are the main agencies that implement laws and regulations relating to the environment?

Section 6

33. How can we live more sustainably?

There will be a vocab quiz the first week of school over the bolded words found throughout chapter 1.