

AP Environmental Summer Reflection Project

AP Environmental Science (APES) is a lab-based course that is designed to examine ecological, biological, chemical, physical and environmental concepts and interactions. A student of this course should be familiar with local, regional and global concerns within their own environment. The objective of this summer assignment is to get you thinking environmentally and to refresh some math skills. Please note that this assignment will be collected for a grade. Please submit all your work in Google Classroom. The code for the APES Summer Reflection Classroom can be found below. All materials should be typed aside from the Math Skills assignment. I hope that you have an enjoyable, exciting, and educational summer! Email me with questions or concerns at rbaello@bergenfield.org (especially if you need help with Part 5)

Due Date: 9/3/2019

Google Classroom Code: kzky1t

1. Environmental Surveys / Ecological Awareness: Screenshot your results and submit all of the survey results in Google Classroom under this assignment.

A. Go to: <http://www.h2oconserve.org/> or <http://www.gracelinks.org/824/water-program> and complete the water footprint calculator. Record how much water you use as a family and as an individual.

B. Go to: <http://www.nature.org/greenliving/carboncalculator/index.htm> and find your individual carbon footprint.

C. Go to: <http://www.myfootprint.org/> and find your ecological footprint. (For # 2 - use the U.S. Measurement System).

2. Current Events in Environmental Science:

At some point over the summer, identify an environmentally themed article that interests you. Please provide a **source of the article**. Please “aim high” in selecting this item. For example, *The New York Times* and *The Wall Street Journal* are generally written at a more appropriate level of depth and detail than some other sources, such as tabloid newspapers and most websites. Also magazines such as *Discover*, *National Geographic*, *Natural History*, *Science*, or *Nature* can provide excellent articles about current environmental issues.

Summarize the article in two paragraphs. Then write a response to the article... what questions do you have / what is your opinion of the issue / how does the issue impact you / how is the article relevant to an APES course?

Submit your work and your source in Google Classroom under the assignment “**Current Events**”

3. Tragedy of the Commons

Read the essay “Tragedy of the Commons” by Garrett Hardin. Here is a link: http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.html. When you have completed the reading, please respond to the following in complete sentences:

- a) What is Garrett Hardin’s central idea in this essay?
- b) Do you personally agree with Hardin’s central idea?
- c) Is the “Tragedy of the Commons” unavoidable?
- d) Identify one “commons” in your own life (at school, home, work) and explain how it is (or is not) being managed wisely to avoid the situation described in the essay.

Submit your work in Google Classroom under the assignment “*Tragedy of the Commons*”

4. Brush Up Your Math Skills

Math Assignment - Please complete the following problems, showing all work. This assignment does not have to be typed.

- a) You may someday purchase a house that has 2500 square feet of living space. How many square meters of living space is this?
- b) If a calorie is equivalent to 4.184 joules, how many joules are contained in that 250 kilocalorie slice of pizza?
- c) A coal-fired electric power plant produces 12 million kilowatt-hours (kWh) of electricity each day. Assume that an input of 10,000 BTU’s of heat is required to produce an output of one kilowatt-hour of electricity. Calculate the number of BTU’s of heat needed to generate the electricity produced by the power plant each day. Calculate the pounds of coal consumed by the power plant each day, assuming one pound of coal yields 5,000 BTU’s of heat.
- d) If a city of 10,000 experiences 200 births, 60 deaths, 10 immigrants, and 30 emigrants in the course of a year, what is its net annual percentage growth rate?

Since it is better to do work on paper, take a picture of your work and submit it in Google Classroom under the assignment “*Math Skills*”

5. Think Global! (50% of Grade) –Submit your work in Google Classroom under the assignment “**Think Global**” and make sure to bring your bumper sticker slogan / movie poster the first day of class

You may either -

Choose Environmental **BOOK** to read over the summer

-OR-

Choose **three environmental documentaries** to watch (some suggestions are below, but you may choose others).

IF YOU CHOOSE A BOOK: As you read, and after you finish... please complete the following:

- Write down any vocabulary and/or information that is related to environmental science and define (10 Term Minimum)
- Describe any questions you may have as a result of your reading (5 Questions Minimum)
- Describe your opinion of the reading – positive/negative/neutral. Reference items in the book to support your thoughts. (Minimum 2 paragraphs)
- Relate what you have learned to your personal life – how does it affect/impact you? How does it fit into an APES course? (Minimum 1 paragraph)
- Condense the overall, take home message of the book into a Bumper Sticker slogan. Design & draw your bumper sticker. Then justify and defend your analysis (Minimum 1 paragraph)

IF YOU CHOOSE TO WATCH DOCUMENTARIES: Documentaries must be a minimum of 45 minutes in length. Documentaries should look at Environmental ISSUES, not just nature. Please complete the following for EACH Documentary.

- Provide the name of the documentary and year in which it was released.
- Describe any questions you may have as a result of your viewing (3 Questions Minimum)
- Describe your opinion of the documentary – positive/negative/neutral. Reference items in the documentary to support your thoughts. (Minimum 1 paragraph)
- Relate what you have learned to your personal life – how does it affect/impact you? What information affected you the most? Will it impact how you live your life? (Minimum 1 paragraph)
- Choose one documentary and design a unique movie poster and slogan for it. Your movie poster should be colorful, neat, and include a slogan that identifies the take home message of the film. Then justify and defend your poster /slogan (Minimum 1 paragraph)

Book Options – most available from local library or on electronic media (Kindle/Nook/iPad)

http://www.goodreads.com/list/show/1526.Best_Environmental_Books .

Suggested Documentaries - many can be found on Netflix, Amazon Instant Video, or some even stream on the web. **If you find a documentary that you like but not on the list, email me for approval.**

- Home – http://www.youtube.com/movie?v=jqxENMKaeCU&feature=mv_sr ·
- National Geographic: Human Footprint
- National Geographic: Six Degrees Could Change the World
- 180° South
- Flow: For the Love of Water
- Tapped
- Trashed
- Food, Inc.
- King Corn
- Dirt
- Gasland
- Who Killed the Electric Car / Revenge of the Electric Car
- Manufactured Landscapes
- Vanishing of the Bees
- Fresh
- Fuel
- Bag It
- Baraka
- Blue Gold: World Water Wars
- World in Balance: The Population Paradox
- Plastic Planet
- Planet in Peril
- Empty Oceans, Empty Nets (PBS)
- Harvest of Fear (Frontline)
- The Cove
- Hawaii: Message in the Waves
- Cane Toads: An Unnatural History

*** Be prepared to discuss your experiences from this assignment as well as the book or documentaries***