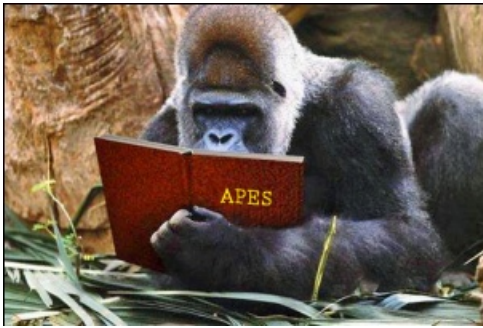


AP Environmental Science Summer Assignment – 2016



Welcome to APES!!!

AP Environmental Science 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. As with any college-level course, a tremendous amount of material must be covered in a limited amount of time. The course is rigorous and very challenging. You must have motivation, creativity, and a good work ethic.

Please note that this assignment will be collected for a grade on the first day of school. Please assemble all materials in a folder (or digital folder on Google Drive). All materials should be typed or hand written very neatly. If you have any questions you can email me at neilcyphert@gmail.com. I hope that you have an enjoyable, exciting, and educational summer! I look forward to seeing you in September! –Mr. Cyphert

Have fun this summer and please check out the class website for updates as the new school year approaches:
www.PaceApes.weebly.com

Below are the 5 tasks you should complete this summer. All final materials should be typed or neatly hand-written, and assembled in order in a folder (or digital folder on Google Drive) to be handed in at the first day of school.

1. **Experience the Natural World**

Visit a natural outdoor area, go for a walk, and make some observations. Please go beyond your immediate neighborhood. I encourage you to be brave and explore with a friend!!! Here are some places you could visit (of course, you could go further afield):

- Prospect Park – Avoid the overcrowded parts and head towards the center of the park, which contains Brooklyn’s oldest forest.
- Jamaica Bay Wildlife Refuge – Located in Queens and is a haven for birdwatchers.
- Governors Island – Located in the New York Harbor and can be accessed by a free Brooklyn or Manhattan ferry.
- Forest Park – Huge park located at Myrtle Ave. and Woodhaven Blvd. in Woodhaven, Queens.
- Owl’s Head Park – Located in Bay Ridge.

On your walk, please do the following:

- Record the time, date, location, approximate duration of your outing, and whether you went alone or with a friend(s).
- Record brief observations of the flora and fauna, the geology of the area, the type of path you are walking on (grass, sand, rock, etc). This should be one paragraph.
- Find a quiet spot to sit for at least five minutes. Close your eyes and listen to the sounds around you. What sounds are natural? Are there human made sounds? Write a reflection of this experience. This should be one paragraph.
- Respond to the following in a brief paragraph:
Is this natural area really “natural”? Explain. How do you think it appeared 25 years ago, 200 years ago, and 20,000 years ago?

2. **Watch the movie “Home” on YouTube.** <https://youtu.be/jqxENMKaeCU>

Write a reflection (at least 1 page) that includes at least 3 environmental science topics that are addressed in the video.

3. **Brush Up Your Math Skills**

Part 1: Go to the following website <http://joneslhs.weebly.com> and complete the Unit Conversion Tutorial worksheet (the worksheet can be found on the website). You need to complete One Step, Multi-Step, and the Double Unit practice tutorials. (Note: you also need to be able to do long-hand division and multiplication WITHOUT a CALCULATOR! Make sure you practice over the summer so you’re ready to go in the fall, especially long hand division of numbers with decimals.)

Part 2: Math Assignment - Please complete the following problems, showing all work. This assignment does not have to be typed.

- 1) You may someday purchase a house that has 2500 square feet of living space. How many square meters of living space is this?
- 2) If a calorie is equivalent to 4.184 joules, how many joules are contained in that 250 kilocalorie slice of pizza?
- 3) 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.
 1. Calculate the number of BTU’s of heat needed to generate the electricity produced by the power plant each day.
 2. Calculate the pounds of coal consumed by the power plant each day, assuming one pound of coal yields 5,000 BTU’s of heat.

4. **Reading Assignment** – To get into the correct mindset for APES and expand your mind, there is a summer reading assignment. Reading is an essential component of higher education, and therefore we do a great deal of it in APES. Please read the instructions carefully. This is due the first day of school.

Part 1: You must read **Visit Sunny Chernobyl** by **Andrew Blackwell**. You can access each chapter digitally on Google drive (<https://goo.gl/QNogDb>) or get it at your local library or bookstore. Take **Handwritten** notes on each section of the book as you read. You will be able to use these notes on when taking the quiz on the book in the fall semester.

Part 2: You must find and staple **4 recent newspaper articles** concerning the environmental issues presented in the chapters in the book. Each article needs to include a paragraph summary (at LEAST 5 sentences) about the article. *The articles must have been published within the last year.*

5. **Environmental Legislation/Treaties**

Create your own chart like the one below for each of the following pieces of legislation or treaties. Use book or Internet resources to find the function of each listed. There will be a quiz on these laws during the first quarter of the school year. The first one is done for you.

Name	Function of Legislation or Treaty
Clean Air Act	<i>Established primary and secondary air quality standards. Required states to develop implementation plans. Sets limits and goals to reduce mobile source air pollution and ambient air quality standards.</i>
Clean Water Acts	
Comprehensive Environmental Response, Compensation Liability Act (CERCLA)	
Convention on International Trade in Endangered Species (CITES)	
Oil Spill Prevention and Liability Act	
Occupational Safety and Health Act (OSHA)	
Ocean Dumping Ban Act	
Oil Pollution Act	
Pollution Prevention Act	
Endangered Species Act	
Kyoto Protocol	
Energy Policy Act	
Montreal Protocol	
Soil and Water Conservation Act	
Solid Waste Disposal Act	
Surface Mining Control and Reclamation Act	
National Environmental Policy Act (NEPA)	
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)	
Fish and Wildlife Conservation Act	
Resource Conservation and Recovery Act (RCRA)	
Safe Drinking Water Act	
Wilderness Act	
Nuclear Waste Policy Act	
Food Quality Protection Act	