

APES SUMMER ASSIGNMENT 2022-2023

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Welcome future APES (Advanced Placement Environmental Science) students! This is an advanced science course that combines the disciplines of biology, chemistry, geology and physics to investigate global environmental issues. Because this is a college level course, you will be responsible for learning a large amount of material on your own. I will help you as we go, but it will be your responsibility to take notes, study and read your text. We also work on the assumption that you have a general science background that includes the prerequisites: biology, chemistry, and algebra. The objective of this summer assignment is to help you prepare for the APES content by getting organized, reviewing some background information, and getting familiar with some basic concepts of environmental science. I've added a bit of fun too!

Most of these assignments will be due the 1st day of school. Scroll to the bottom for due date and points. The 5 sections of this summer assignment is worth 125 points. To give you an idea of what that means in this class, a test is worth 200 points, HW assignments are worth 15-30 points, binder checks are 50 pts, and labs vary based on rigor.

Section 1: Electronic Setup–In this course we will be using REMIND for important updates, change of classroom, & quizlet sharing. Complete this task to ensure that you are ready to begin on the first day of class. Be sure to get class announcements by signing up for REMIND. Simply text @carew2022 to 81010.

Section 2: Geography Exercise–As we will be talking about various places on the planet throughout the year, a knowledge of some basic geography is important. Use this activity as a refresher of skills you have learned in the past, please be familiar with the following terms/locations. College Board LOVES to give you a map and test your geographical knowledge. Print the map on the last page, follow the instructions at the below then turn in the color-coded, labeled map.

Section 3: Chemistry is a part of environmental science & a prerequisite/co-requisite before registering for the course. In order to review some of the basic chemistry concepts, you will need to complete the following on a clean sheet of paper. This must be handwritten.

1. For each of the following, write out the **chemical name** that goes with the symbol. **Pay attention to capitalization!** Remember–this should be neatly written on notebook paper.

CO ₂	CO	C ₆ H ₁₂ O ₆
CH ₄	H ₂	N ₂
NO ₂	NO ₃	NH ₄
O ₂	O ₃	PO ₄
SO ₂	SO ₃	H ₂ SO ₄
NaCl	Pb	R _n
Hg	HNO ₃	NO

Answer the following questions below the chemical names. Be sure to answer ALL parts of each question:

- What is the pH scale? What does it measure?
- How do the numbers on the pH scale compare? Is a pH of 4 twice as strong as a pH of 2?
- What are the average pH ratings of the following substances in the environment?
 - Blood
 - Rain
 - Freshwater lake
 - Ocean water

Section 4: Documentary–There are so many great Environmental Documentaries that can get you prepared for some of the issues we will be discussing in this class. Choose **one** of the following documentaries (most can be watched on Netflix, Amazon Prime, Vimeo, Hulu, Youtube, etc). You can also try documentarymania.com . IF THERE IS A DIFFERENT DOCUMENTARY (that covers an environmental problem like oil spills, climate change, biodiversity, food, population growth, energy/fossil fuels, ocean acidification, etc) YOU WOULD LIKE TO WATCH THAT IS NOT ON THIS LIST, MESSAGE ME THROUGH REMIND FOR APPROVAL. You are welcome to watch the same documentary as your friend, however your write up must be completely different. Remember–this is an AP class, your 3 paragraphs should reflect that. Show me through evidence and examples you actually watched this documentary. 😊

- Provide the name of the documentary as your heading. Put your name at the top.
- Paragraph 1:** Describe your opinion of the documentary – positive/negative/neutral. Reference at least 3 points from the documentary to support your thoughts.
- Paragraph 2:** 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?
- Paragraph 3:** Discuss at least 3 concepts/topics that surprised you, explain what was interesting regarding these topics.
- Choose from **ONE** of the following:

○ <i>Kiss the Ground</i>	○ <i>Before the Flood</i>	○ <i>Mission Blue</i>
○ <i>After the Spill</i>	○ <i>Chasing Ice</i>	○ <i>Vanishing of the Bees</i>
○ <i>The Devil We Know</i>	○ <i>Meat the Truth</i>	○ <i>Cowspiracy</i>
○ <i>King Corn</i>	○ <i>Chasing Coral</i>	○ <i>Tapped</i>

Section 5: Get Organized! Create a cover page to place in the coverslip of your binder. It should have **your name, my name, class name & period, and a picture** depicting a global issue you learned about from your documentary. This picture can be hand-drawn or printed from the computer. You will also need:

- | | |
|--|---|
| • 1" binder with 9 dividers; | • a pen that is red, green, or purple; |
| • 200 sheets of college-ruled nb paper; | • Calculator (basic or graphing) |
| • at least 2 #2 pencils; 2 blue/black pens | • 2 highlighters (different colors) |

We will not waste class time to organize our binder. Please do this at home. Label your tabs for the following units: 1) Ecosystems 2) Biodiversity 3) Populations 4) Earth Systems 5) Land & Water Use 6) Energy 7) Air Pollution 8) Water & Land Pollution 9) Global Change

The binder will be checked randomly at the end of every unit. Bring your binder & other supplies to and from class daily!

RUBRIC & DUE DATES:

Summer Component	Due Date	Points	Format
Section 1: REMIND	Prior to 8/10	-	
Section 2: Geography	8/12: 3 rd day of school	25 pts	Print & upload a picture on Canvas
Section 3: Chemistry review	8/12: 3 rd day of school	25 pts.	Upload a picture on Canvas
Section 4: Documentary	8/12: 3 rd day of school	50 pts	Attach typed file on Canvas
Section 5: Supplies	8/15: Monday	25 pts	Bring organized binder to class

~Make sure all assignments have names on them prior to submitting, or you will NOT receive credit.

*If you have any questions regarding these assignments, feel free to reach out to me via Remind anytime this summer. I look forward to getting to know you throughout our 10 months together. I can't wait to open your eyes to the many environmental issues in our world and discuss possible solutions ☺

-Mrs. Carew

Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has. -Margaret Mead

Directions for Section 2:

WORLD MAP

- To 'label' the map means to write the geographic location in the correct place using that color pen or color pencil. Write the name, not the number.
 - Label the following in RED or ORANGE: 1) Alaska; 2) Amazon Rainforest; 3) Bhopal, India; 4) Chernobyl; 5) China; 6) Egypt; 7) Greenland; 8) Hawaii; 9) Iceland; 10) India; 11) Three Mile Island, PA; 12) Yellowstone Park
 - Label the following in BLUE: (Oceans): 1. Arctic 2. Atlantic 3. Indian 4. Pacific 5. Southern (Lakes): 1. Great Lakes 2. Aral Sea (Rivers-draw/label) 1. Mississippi 2. Nile 3. Tigris-Euphrates 4. Yangtze 5. Colorado River (Dams-Put a Star & label) 1. Aswan High 2. Hoover 3. Three Gorges Dam
 - Miscellaneous-Label the following in GREEN 1. San Andreas Fault 2. Mid Atlantic Ridge 3. Ring of Fire 4. Chesapeake Bay 5. Arctic National Wildlife Refuge (ANWR) 6. Ogallala Aquifer (*use a highlighter to shade the states this aquifer covers, then label*)

Put your name on the map below, print, & submit on Canvas the 2nd day of school.

Name: _____ Pd. _____

