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|  | Ms. Barcoe, APES, 2020-2021 |

**AP Environmental Science (APES) Summer Work**

Welcome to APES! I am very happy that you have decided to take this course and embark upon what I believe will be an exciting and profitable educational journey. This letter contains an outline and brief description of the summer work that is required prior to beginning the school year. By performing these tasks, you will take a huge step towards preparing for the upcoming year. I want you to understand that I, like you, enjoy summer break. This is not intended to be “busy work.” By completing these tasks, you will perform a lot of research on concepts and sources of information that we will be using throughout the year.

Because the APES exam will be held in early May 2021, class time is very precious. We will use most of April reviewing for the exam. This leaves us with about 6 months, including breaks and holidays, to prepare for the AP Exam. It is imperative that we use our time as efficiently as possible. There are 20 chapters in the textbook, and we will cover all of them. That works out to about 1 chapter of a college-level textbook every 1.5 weeks! The more we accomplish in the summer, the smoother things will go for us.

APES is an immense field of study. Not only is it a science in the traditional sense, it is complicated by societies, opinions, governments, beliefs, economics, laws and ethics. If you want to succeed in APES, you’ll need to constantly embrace this interdisciplinary perspective.

**This is a college level course! Therefore, I expect college level work habits from my students.** The major topics we will be covering this year are:

● The Living World: Ecosystems and Biodiversity

● Populations

● Earth Systems and Resources

● Land and Water Use

● Energy Resources and Consumption

● Atmospheric Pollution

● Aquatic and Terrestrial Pollution

● Global Change

The following pages outline the assignments that are due when we return to school in the fall.

Please email me at ANY TIME with questions or concerns. I typically respond very promptly to professionally written emails. I look forward to our year together learning about Environmental Science!

Most sincerely,

Ms. Barcoe

**ASSIGNMENT 1**

**Write a Letter of Introduction.**  My email address is: holly.barcoe@hsv-k12.org

Make the Subject: “**APES: Introduction to** **<Insert Your Name Here>**”

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

Begin the e-mail with a formal salutation, like “Ms. Barcoe,” or “Dear Ms. Barcoe,”

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

• 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 email with a formal closing: “Cordially”, “Sincerely”, “Warm regards”, etc. and add your name as if you signed a letter.

**Assignment 2**

**Complete the APES Math Practice Packet/Worksheet**

While there is not a lot of math in APES, it is important that you are comfortable solving some problems.

Most of our math will involve dimensional analysis – solving problems involving unit conversions. You should be comfortable working with percentages, operations with decimal numbers and using scientific notation. You also need the ability to read, interpret and create graphs from data.

Show all your work. This cannot be emailed to me, so it is due the week we begin school.

**Assignment 3**

**Science in the News: Environmental Article Summaries and Reflections**

Find **TWO** articles that have been published this summer, 2020 (from May-August). Each article should be about a different **environmental issue**.

Some ideas to consider are: chemical contamination, climate change, pollution, deforestation, overpopulation, endangered species, invasive species, pesticides, habitat destruction, etc.

 Your article summary should include an APA format citation of your article. Use this resource to help you with the citation expectations:

 [**http://www.citationmachine.net/apa/**](http://www.citationmachine.net/apa/)

Sources can include scientific publications, journals, newspapers like the NY Times, National Geographic, The Wall Street Journal (aim high - the more scholarly the better). Online newspapers or journals or .gov, .edu. or .org sites are okay too.

For each article analysis please address the following criteria in at least 1 page double-spaced (per article).

1. Summarize the content of the articles in your own words.

Focus on the following questions:

 i. What is the problem? When did it begin?

 ii. Why is this topic essential to understand? Why should we care?

 iii. Do we know the responsible parties? If so, who is it?

 iv. How severe is the environmental impact?

2. Reflect on or write your personal reaction to the article.

Focus on the following questions:

 i. What are your thoughts on the issue?

ii. How does it compare to information you have heard or read before? Does it support/refute what you know or thought you knew?

iii. Do you know who to trust in regards to “the facts” presented? How do you know this is a credible account of this issue? Be sure to justify your response to this final question.

iv. Are there words/concepts you don’t understand? What did you do to make sense of them? How did that help you?

v. What other information would be helpful for you to better understand the environmental impacts?

**Science in the News – Exemplar**

[**https://theconversation.com/two-types-of-tectonic-plate-activity-create-earthquake-and-tsunami-risk-on-lomb ok-101177**](https://theconversation.com/two-types-of-tectonic-plate-activity-create-earthquake-and-tsunami-risk-on-lomb%20ok-101177)

**Two types of tectonic plate activity create earthquake and tsunami risk on Lombok**

This article (published 8/2018) describes how large earthquakes in Indonesia have resulted in about 100 deaths and many injuries and damage to local infrastructure. The article describes a unique result of tectonic plate movement - resulting in these earthquakes, and threatening to result in a tsunami. The authors describe how typically when plates move towards one another, one subducts, or moves under the other. In this case, the Australian and Indonesian island plates are causing potential environmental concerns at the location that they plates are colliding, and also farther north geographically. The article includes a map of earthquake hazards specific to this region that displays when previous earthquakes occurred - as well as what their magnitude was. It concludes with additional information about why this specific region is prone to earthquakes and tsunamis and provides predictions for how at risk local residents are to these potential occurrences, citing previous death tolls.

This article provides direct examples of many of the types of tectonic plate movement that are discussed in this part of the unit. One term is new to me: back-arc thrust. I predict that this is in reference to a specific type of tectonic plate overlap, but I may need to do some additional research to fully understand what this looks like and how it works. Personally, it was helpful to have additional examples of how this geological phenomenon impacts specific regions and also to have additional visuals to reference. The connection between earthquakes and tsunamis was clarified for me after reading this article, as well. While this article did touch on the Ring of Fire - there was limited information directly relating to volcanoes and this region. It will be helpful to continue to reference maps in this region to get a better understanding of why this place on our planet is so prone to earthquakes, volcanic eruptions, and tsunamis.

While this article did not come from a specific organization or educational site, the information about the authors’ and contributors’ university connections provided at the beginning of the article does lead me to believe that this information is credible and can be trusted.

**Assignment 4**

**Take a Hike!**

Sustainability of our environment is the key concept in APES. Go outside this summer! Camp, ride your bike, go to the beach, swim in a lake, hike in the mountains, explore a forest. Experience nature then tell us about it.

• Spend a minimum of 2 hours somewhere hiking in nature without any man-made noise! No music, phone calls etc.

• Don't hike alone, take a cell phone, water, snacks and a flashlight with you.

• Take a picture of you with a sign showing where you are at the beginning of your hike and a picture of you at the point you turn around to go back. Be creative we will share these on the first day of class.

• Write a 2-page reflection on your observations as you hiked and what you noticed while not having any man-made noise. Minimum 700 words double-spaced, 12 point font.

• Please submit this report and your pictures to my email at holly.barcoe@hsv-k12.org

• We will enjoy a slide show of everyone’s photos on Day 1. Please let me know if you would be interested in putting this slide show together using everyone’s submitted photos.