

AP Environmental Science

Instructor: Anna M



Day of Week: Wednesdays

Time (PST): 4:00 pm PDT

All classes are 50 minutes and start at the top of the hour.

OVERVIEW OF SESSION

For the next 10 weeks, we are going to build upon and contextualize the topics and concepts of AP Environmental Science with real-world applications and interactive activities. Through a curated look at specific environmental issues the world faces today, we will discuss and evaluate our relationship with our natural environment.

OBJECTIVES

1. Understand the relationships between humans and the abiotic and biotic elements of the natural world.
2. Know and be able to explain the interconnected, natural processes that shape our environment.
3. Appreciate the intersection of scientific and social elements in the interdisciplinary field that is Environmental Science.
4. Understand the ecological and historical background of our current climate crisis.
5. Become confident in discussing and formulating educated opinions about environmental challenges.

WEDNESDAYS

BREAKDOWN OF WEEKS

Each Monday morning I'll send an updated breakdown for Wednesday's class and will confirm any pre-work that we'll be discussing. By Tuesday night please reply to that email with any questions you've come across in your independent studies, so that we can answer them in class. Let me know how I can best support you; I'm here to help!

Week 1:

Watch "How Wolves Change Rivers."

https://www.youtube.com/watch?v=ysa5OBhXz-Q&ab_channel=SustainableHuman

GOAL FOR TODAY: Understand how small environmental changes can have large impacts through the interconnected nature of ecosystems.

Topic of the Day

Interrelationships

What's On Tap for Today?

Break the Ice

Discussion of "How Wolves Change Rivers"

Interrelationships Activity and Discussion

Question of the Day

Questions

Prep/Review for Next Week

Chapters 5 and 6

Feedback loops, ecological succession

Week 2:

Read the article linked below and watch the short video at the end.

<https://www.frontlinewildfire.com/how-forest-recovers-wildfire/>

GOAL FOR TODAY: Understand how ecosystems rebuild and maintain stasis and how human influence can disrupt the natural order.

Topic of the Day

Ecological Succession and Ecosystems

What's On Tap for Today?

Questions

Introduction to Ecological Succession

Discussion about Wildfires

Ecological Succession Activity and Discussion

Question of the Day

Prep/Review for Next Week

Chapter 11

Biodiversity, evolution, natural selection

Week 3:

PRE-WORK: Watch “Why is Biodiversity so important?”

https://www.youtube.com/watch?v=GK_vRtHJZu4&ab_channel=TED-Ed

OPTIONAL: David Attenborough on biodiversity and extinction

<https://www.bbc.com/news/science-environment-54329813>

GOAL FOR TODAY: Understand the importance of biodiversity and how evolution occurs.

Topic of the Day

Biodiversity

What's On Tap for Today?

Questions

Introduction to Biodiversity

Australia Slideshow

Biodiversity activity

Question of the Day

Prep/Review for Next Week

Chapters 7 and 8

K-strategists vs R-strategists, carrying capacity

Week 4:

PRE-WORK: Watch "Japan's Population Problem"

https://www.youtube.com/watch?v=3tiqNlrUsHE&ab_channel=TheInfographicsShow

GOAL FOR TODAY: Understand the factors that contribute to population growth or decline and the consequences of overpopulation.

Topic of the Day

Population Dynamics

What's On Tap for Today?

Questions

Introduction to Population Dynamics

Discussion about “Japan’s Population Problem”

Population Pyramid Activity and Discussion

Question of the Day

Prep/Review for Next Week

Chapters 12, 13, and 14

Cookie Mining Prep

GMOs, Mining

Week 5:

PRE-WORK: Watch “Industrial vs Sustainable Agriculture”

https://www.youtube.com/watch?v=7TRI7yeeYQQ&ab_channel=DavideBaresi

GOAL FOR TODAY: Understand how agriculture and mining impact the environment.

Topic of the Day

Land Use: Agriculture and Mining

What’s On Tap for Today?

Questions

Introduction to Land Use

Discussion about Sustainable Agriculture

Cookie Mining Activity

Question of the Day

Prep/Review for Next Week

Chapter 9 and 10

Hydro energy, wind energy, nuclear energy, fracking

Week 6:

Watch “Fossil Fuels 101” and “Renewable Energy 101.”

https://www.youtube.com/watch?v=zaXBVYr9Ij0&ab_channel=StudentEnergy

https://www.youtube.com/watch?v=1kUE0BZtTRc&ab_channel=NationalGeographic

GOAL FOR TODAY: Understand why fossil fuels are not sustainable and how renewable energy can fix the problem.

Topic of the Day

Renewable Energy

What's On Tap for Today?

Questions

Introduction to Renewable Energy

Discussion about coal use and biomass in developing countries

Renewable Energy Debate

Question of the Day

Prep/Review for Next Week

Chapters 15, 16, and 18

Eutrophication, common air contaminants

Week 7:

PRE-WORK: Read and bring in an article of your choice about one of the following

environmental contaminant crises:

-Flint Michigan Water Crisis

-BP Oil Spill

-Cuyahoga River Fire

GOAL FOR TODAY: Understand past and present instances of environmental contamination and the importance of mitigating pollution.

Topic of the Day

Pollution and Environmental Contamination

What's On Tap for Today?

Questions

Introduction to Pollution

Eutrophication Discussion/Activity

Air Pollution Feedback Loops Activity

Question of the Day

Prep/Review for Next Week

Chapter 17

Climate change, carbon footprint, coral bleaching, ocean acidification

Week 8:

Watch "Climate 101."

<https://climaterealityproject.org/video/climate-101-bill-nye>

GOAL FOR TODAY: Understand the causes and effects of climate change and how we can do our part to reverse the damage.

Topic of the Day

Climate Change

What's On Tap for Today?

Questions

Introduction to Climate Change

Discussion about the causes and effects of climate change

Calculate our Carbon Footprint Activity

Ocean Acidification Activity

Question of the Day

Prep/Review for Next Week

Chapters 2 and 3

Environmental Ethics

Week 9:

PRE-WORK: Read “Climate Change, Poverty, and Human Rights: An Emergency” and watch “Electricity in India | Before the Flood.”

<https://theconversation.com/climate-change-poverty-and-human-rights-an-emergency-without-precedent-120396>

https://www.youtube.com/watch?v=Ia5fMomBXbE&ab_channel=NationalGeographic

GOAL FOR TODAY: Understand current environmental justice concerns and how we can be a part of the change.

Topic of the Day

Environmental Ethics and Justice

What's On Tap for Today?

Questions

Introduction to Environmental Ethics

Discussion about poverty as an environmental concern

Environmental Action Project

Question of the Day

Prep/Review for Next Week

Chapters 19 and 20

“Silent Spring,” The Environmental Decade

Week 10:

PRE-WORK: Read “Earthrise: How the Iconic Image Changed the World” and watch the first two minutes of “Earth Days.”

<https://www.theguardian.com/science/2018/dec/24/earthrise-how-the-iconic-image-changed-the-world>

https://www.youtube.com/watch?v=HyTs1gH3f_8&ab_channel=stonevlakeogura

GOAL FOR TODAY: Understand the importance of the “environmental decade” and how we can draw on past environmental movements for modern day solutions.

Topic of the Day

Environmental Legislation: Past, Present, and Future

What's On Tap for Today?

Questions

Introduction to Environmental Legislation

Discussion about the “Environmental Decade”

Environmental Legislation Activity

Question of the Day

Final Review