

2025-2026 AP Environmental Science Summer Assignment:
DUE Tuesday, September 2, 2025

Welcome to AP Environmental Science (APES)! I am excited for this year, and I hope you are too! The purpose of this summer assignment is to introduce you to Environmental Science, the important legislation, vocabulary, and article analysis. It will help you become aware of the environment and many of the ongoing concerns related to it. It will help us cover the legislation required for the AP exam next May, and it will inspire you to learn about all the great topics we'll cover next year. If you have any questions about this work over the summer, please feel free to email me at poesen@hopatcongschools.org Thanks in advance for the time you invest in these assignments. Also know that I'm picking the most important things for you to work on since I want you to have plenty of time to enjoy your summer break! **To receive FULL credit, all work MUST be HANDWRITTEN.**

ASSIGNMENT #1: 2 5 POINTS - ENVIRONMENTAL LEGISLATION

Construct a table like the example that organizes important information regarding environmental legislation for the laws/treaties listed below. Include the following information:

- Name of Law or Treaty
- Draft Year and Amendment Years
- Is it International (world) or National (just the U.S)
- Describe the Function.
- What Environmental Issues are affected by this Legislation?
- Agency/Group Responsible for Regulation and Enforcement (United Nations, Department of Interior, EPA, etc.)

EXAMPLE:

Name	Date Draft & Amendment Year(s)	International or US?	Summarized Description	Issue(s) Affected	Agency
Clean Air Act	1963, 1977, 1990	US	To monitor and control air pollutants such as sulfur dioxide, nitrogen oxides, carbon monoxide, particulate matter, ozone, lead, carbon dioxide, volatile organic compounds, mercury. Meant to protect public welfare and health and regulate emissions of dangerous air pollutants.	Air pollution, Human health	EPA

Table Hints:

- You can use a book or online SCHOLARLY resources to find the information. Since these are governmental in nature, gov sites are best!
- Feel free to use the provided template. This will be beneficial throughout the year

<u>Clean Air Act (CAA)</u>	General Mining Act of 1872
<u>Clean Water Act (CWA)</u>	<u>Surface Mining Control and Reclamation Act of 1977</u>
<u>Safe Drinking Water Act</u>	<u>Resource Conservation & Recovery Act (RCRA)</u>
<u>Kyoto Protocol</u>	<u>Comprehensive Environmental Response, Compensation Liability</u>
	<u>Act (CERCLA)</u>
<u>Montreal Protocol</u>	<u>Endangered Species Act (ESA)</u>
Delaney Clause of Food, Drug, and Cosmetic Act	<u>Convention on International Trade</u>
	<u>in Endangered Species (CITES)</u>

[illegible]

<i>Name</i>	<i><u>Date Draft & Amendment</u></i> <i>Year(s)</i>	<i><u>International</u></i> <i>or US?</i>	<i>Summarized Description</i>	<i><u>Issues(s)</u></i> <i>Affected</i>	<i>Agency</i>

ASSIGNMENT #2: 15 POINTS – BASIC VOCABULARY

In much science, knowledge of vocabulary is paramount to maintain clear and concise communication. In AP Environmental Science, usage of vocabulary is critical for the FRQ (free response questions) portion of assessments including the AP Exam in May. Writing in a “short and sweet” style is preferred. Define/ summarize the following terms:

· Age-structure diagrams	· Eutrophication	· Photochemical smog
· Aquaculture	· Exponential growth	· Point source pollution
· Anthropogenic	· Fertility rates	· Primary succession
· Biodiversity	· Food webs	· Persistent Organic Pollutant
· Biomagnification	· Genetic diversity	· Radon
· Bioaccumulation	· Geothermal	· Remediation
· Biomass	· Generalist Species	· Restoration
· Carrying capacity	· Greenhouse effect	· Sanitary landfill
· Cholera	· Greenhouse gases	· Secondary succession
· Climate	· Hydroelectric	· Sequestration
· Chlorofluorocarbons	· Hydrogen fuel cells	· Specialist Species
· Conservation	· Integrated pest management	· Stratospheric ozone
· Coriolis effect	· Invasive species	· Survivorship
· Deforestation	· Keystone species	· Sustainability
· Demographic transition	· Mitigation	· Symbiosis
· Desertification	· NAAQS	· Tolerance (Range of)

· Ecological footprint	· Natural selection	· Troposphere
· Ecological niche	· Non-point source pollution	· Urban heat island
· Ecological pyramid	· Nuclear fission	· Ultraviolet radiation
· Ecological succession	· Ocean acidification	· Urbanization
· Endocrine Disruptors	· Overgrazing	· Urban Sprawl
· ENSO	· Ozone	· Volatile organic compounds
· Estuary	· Particulate matter	· Wetland

ASSIGNMENT #3: 10 POINTS - ARTICLE ANALYSIS

Case studies and article analysis are important skills. They allow thought-provoking debate and open new avenues of discussion. Read the passage below and answer the questions that follow.

Excerpt from "Silent Spring" By Rachel Carson, 1962

I. A Fable for Tomorrow

"There was once a town in the heart of America where all life seemed to live in harmony with its surroundings. The town lay in the midst of a checkerboard of prosperous farms, with fields of grain and hillsides of orchards where, in spring, white clouds of bloom drifted above the green fields. In autumn, oak and maple and birch set up a blaze of color that flamed and flickered across a backdrop of pines. Then foxes barked in the hills and deer silently crossed the fields, half hidden in the mists of the fall mornings.

Along the roads, laurel, viburnum and alder, great ferns and wildflowers delighted the traveler's eye through much of the year. Even in winter the roadsides were places of beauty, where countless birds came to feed on the berries and on the seed heads of the dried weeds rising above the snow. The countryside was, in fact, famous for the abundance and variety of its bird life, and when the flood of migrants was pouring through in spring and fall people traveled from great distances to observe them. Others came to fish the streams, fish flowed clear and cold out of the hills and contained shady pools where trout lay. So it had been from the days many years ago when the first settlers raised their houses, sank their

wells, and built their barns.

Then a strange blight crept over the area and everything began to change. Some evil spell had settled on the community: mysterious maladies swept the flocks of chickens; the cattle and sheep sickened and died. Everywhere was a shadow of death. The farmers spoke of much illness among their families. In the town the doctors had become more and more puzzled by new kinds of sickness appearing among their patients. There had been several sudden and unexplained deaths, not only among adults but even among children, who would be stricken suddenly while at play and die within a few hours.

There was a strange stillness. The birds, for example—where had they gone? Many people spoke of them, puzzled and disturbed. The feeding stations in the backyards were deserted. The few birds seen anywhere were moribund; they trembled violently and could not fly. It was spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh.

On the farms the hens brooded, but no chicks hatched. The farmers complained that they were unable to raise any pigs—the litters were small and the young survived only a few days. The apple trees were coming into bloom but no bees droned among the blossoms, so there was no pollination and there would be no fruit.

The roadsides, once so attractive, were now lined with browned and withered vegetation as though swept by fire. These, too, were silent, deserted by all living things. Even the streams were now lifeless. Anglers no longer visited them, for all the fish had died.

In the gutters under the eaves and between the shingles of the roofs, a white granular powder still showed a few patches; some weeks before it had fallen like snow upon the roofs and the lawns, the fields and streams. No witchcraft, no enemy action had silenced the birth of new life in this stricken world. The people had done it themselves.

This town does not actually exist, but it might easily have a thousand counterparts in America or elsewhere in the world. I know of no community that has experienced all the misfortunes I describe. Yet every one of these disasters has actually happened somewhere, and many real communities have already suffered a substantial number of them. A grim specter has crept upon us almost unnoticed, and this imagined tragedy may easily become a stark reality we all shall know.”

**Rachel Carson (1907-1964) was educated at John Hopkins University and conducted research at the Marine Biological Laboratory in Woods Hole, Massachusetts. She worked as a biologist for the U.S. Fish and Wildlife Service and served as chief editor of publications from 1947 to 1952. She wrote many books and articles about the sea, including *Under the Sea-Wind* (1941); *The Sea Around Us* (1951), which won a National Book Award; and *The Eagle of the Sea* (1955). Carson was among the first scientists to raise environmental issues for the public, and her vises and insights have greatly influenced the environmental movement. The readings that follow – “A Fabled for Tomorrow” and “The Obligation to Endure” – are the first two chapters of *Silent Spring* (1962), a book that “changed the course of history,” according to former vice president Al Gore. It led to John F. Kennedy’s presidential commission on the environment, as well as the banning of the use of the poison DDT in agriculture.

1. What is the major assertion of this passage? What is Carson's message?
2. Carson describes the possibility of genetic damage by environmental hazards as something new. She also discusses cellular damage caused by environmental carcinogens, an especially poignant example because Carson herself died of breast cancer. Do you think of these as novel, even controversial theories? Why or why not?

1. _____

2. _____
