

APES in a BOX: The Review Sessions

APES Environmental History and Other Important Stuff!

Environmental history is rarely tested directly on the exam. However, there are some important people, dates, etc. that you should know about. It is also important to have some historical context for understanding the social and political aspects of environmental science.

Important People

Theodore Roosevelt: U.S. President from 1901-1909. Roosevelt is known as a conservationist who protected vast amounts of land during his presidency.

Aldo Leopold: Author of "A Sand County Almanac". Leopold's work helped to inspire the modern environmental movement.

John Muir: Founded the Sierra Club in 1892. John Muir argued for the creation of national parks.

Rachel Carson: In 1962 published Silent Spring. The book brought attention to problems associated with the use of pesticides.

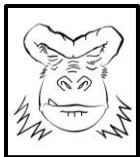
Richard Nixon: US President. Established the Environmental Protection Agency in 1970.

Jimmy Carter: US President from 1977-1981. Carter Urged the creation of the Department of Energy, and the formation of the "Superfund Act".

Important Events and Eras

Hunter-Gatherers: Prior to the agricultural revolution, early humans existed as hunter-gatherers. They survived by hunting, scavenging, and collecting wild plants. Early humans were highly mobile, and the human population was very small. The environmental impact of the hunter-gatherers was relatively low due to the small population size. Hunter-gathers were not without environmental impact entirely. Early humans were in many instances responsible for the extinction of many of the megafauna on the planet.

Agricultural Revolution: The first Agricultural Revolution began as many as 10,000 years ago. During this period of time, civilization made the shift from a hunter-gatherer society to an agricultural society. We collectively learned how to cultivate plants which led to more reliable food production. Since the industrial revolution, agriculture has expanded exponentially with the development of farm machinery, pesticides, herbicides, fertilizers, and advanced irrigation techniques.



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Industrial Revolution: The Industrial Revolution began in the mid 1800s in Europe and quickly spread to the United States. The development of the steam engine, internal combustion engine, and the use of fossil fuels brought about the Industrial Revolution. During this period, industry and agriculture grew significantly as mass production and new technological advances were developed. The mining and use of fossil fuels increased as well as the production and use of chemicals.

Globalization: The world is currently in a period of globalization. This is characterized by international commerce, increased travel, sharing of cultures and traditions, as well as an increase in the middle class. Globalization has been seen as an unprecedented opportunity for the sharing of ideas and resources, but it has also resulted in a loss of cultural diversity and biodiversity.

The Fine Print

The **National Environmental Protection Act (NEPA) (NEPA)** requires that all branches of the government give due consideration to environmental concerns when federal activities are carried out.

The **Emergency Planning and Community Right to Know Act** requires that annual reports be made regarding the release of toxic chemicals into the environment.

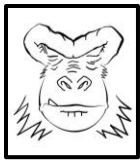
Words You Need to Know

From time to time, there will be words on the APES exam that may throw you for a loop. Here is a list of words that don't necessarily have anything to do with environmental science, but have shown up on the exam in the past. These are all words that our students have had a hard time with in the past, and it is necessary to have a good vocabulary in order to understand what the exam questions are asking you.

Abundant: Abundant simply means plenty, or a lot. Coal reserves in the United States are relatively abundant.

Anthropocentric: Human centered. The decision to build the new shopping mall on the site of the town's nature preserve was anthropocentric.

Anthropogenic: Human caused. There are many anthropogenic sources of air pollution.



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Causative, causal, causation: Three different words that all imply that one thing “causes” another thing to happen. Agricultural runoff is a causative agent of cultural eutrophication.

Collaboration: Working together. Many governments collaborated to draft and enact the Kyoto Protocol.

Combustion: Having to do with fire. The incomplete combustion of fossil fuels contributes to acid rain.

Commercial: Having to do with business, or economy. A commercial fisherman is one who fishes to make a profit as opposed to a recreational fisherman who fishes for fun.

Compensation: Payment. The company received compensation from the government to store the nuclear waste.

Consumption: Use. Consumption of seafood has increased steadily since 1950.

Contention: A point of argument. The farmers main point of contention was that the new pesticide legislation would result in decreased profits.

Correlation: Relationship. There is a positive correlation between agricultural runoff and cultural eutrophication.

Devoid: Without. My environmental science teacher must be devoid of a soul!

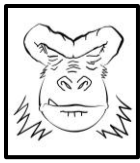
Efficiency: Efficiency refers to the amount of work, or amount of product, that is received for a given amount of energy that is expended. This term is likely to be used in questions about different types of energy or fuels. Incandescent light bulbs operate at approximately 5% efficiency.

Emmigration: Leaving a country or area. The local famine forced many families to emigrate to another area.

Employs: Uses. Grassroots environmental organizations employ volunteers to support their cause.

Equatorial: Pertaining to the equator. Equatorial regions receive more sunlight annually than the polar regions of the earth.

Fluctuation: Change. The salmon population in the pacific northwest fluctuates regularly.



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Fragmentation: Separation. Habitat fragmentation disrupts the ability of certain organisms to migrate.

Immigration: Moving into a country or area. The population increase in the United States is due almost entirely to immigration.

Implicated: Implicated means that someone or something has been shown to be associated with an event. DDT was implicated in the disruption of the reproductive process in Brown Pelicans.

Inadvertent: Unintended, or by accident. An inadvertent consequence of the local feedlot was the runoff of animal waste into the local lake.

Incidence: Occurrence or happening. The incidence of heart disease in the United States is relatively high.

Insoluble: Not soluble, won't dissolve. Fat soluble vitamins are insoluble in water.

Mean: Mathematic average. The mean income for Americans is \$50,000.

Municipal: City. Municipal solid waste is the primary material in the local landfill.

Proliferation: Expansion. The proliferation of nuclear weapons is of great concern to the United States.

Proportional: Relationship of parts to each other, or to the whole. The EPA's response to the companies' environmental problems was proportional.

Uniformity: Uniformity implies sameness. The uniformity of the fast food restaurant's product was remarkable.

Viable: Capable of sustaining life, or likely to succeed. The government struggled to pass viable legislation on climate change.



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History and Vocabulary Review Questions

Questions 1-5 refer to the following persons

- A) Rachel Carson
- B) Aldo Leopold
- C) John Muir
- D) Theodore Roosevelt
- E) Richard Nixon

1. Author of *A Sand County Almanac*, and co-founder of the US Wilderness Society.
2. Founded of the Sierra Club, and pushed for the creation of a national park system
3. Authored *Silent Spring* in 1962, alerting the public to the harmful effect of pesticides.
4. US president that established the Environmental Protection Agency.
5. US president known as a conservationist. During his presidency vast tracts of land were preserved.

6. Which of the following terms means human-caused?

- A) Anthropogenic
- B) Anthropocentric
- C) Causal
- D) Incidental
- E) Proliferation



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7. Which of the following are characteristics of early hunter-gatherer societies?

- I. Hunter-gatherer societies were highly mobile
- II. Hunter-gatherer societies had a large environmental impact
- III. Hunter-gatherers experienced high mortality and short life-spans

- A) I only
- B) II only
- C) I and II only
- D) I and III only
- E) I, II, and III

Use the following answer choices for questions 8-10

- A) Municipal
- B) Proliferation
- C) Proportional
- D) Inadvertent
- E) Mean

- 8. Referring to the mathematical average.
- 9. Having to do with a city or local government.
- 10. Unintended or by accident.



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Multiple Choice Scoring Guidelines

| | | | | |
|------|------|------|------|-------|
| 1. B | 3. A | 5. D | 7. D | 9. A |
| 2. C | 4. E | 6. A | 8. E | 10. D |

Multiple choice points earned/10 * 100 = Quiz average

(_____) / 10 * 100 = _____ Quiz Grade