Introduction to Environmental Science

1. What is **environmental science**?
2. The **environment** includes:

1. Environmental science is **interdisciplinary** because….
2. Using the example of coal-for-electricity, describe how each of these fields of study is involved.
   1. Economics –
   2. Geology –
   3. Engineering –
   4. Chemistry –
   5. Meteorology –
   6. Ecology –
   7. Politics -

**Three Major Environmental Problems**

1. Define **renewable resource** –
   1. Give one example of a renewable resource.
2. Define **nonrenewable resource –**
   1. Give one example of a nonrenewable resource.
   2. What is the estimated remaining supply of coal?
3. Define **biodegradable pollution –**
4. Define **nondegradable pollution –**
5. Mark the areas with the greatest concentrations of air pollution.



1. Define **biodiversity –**
2. Define **extinction –**
3. How many known major extinction events have occurred in the history of Earth?
   1. What caused the most recent one?
4. What is the **background rate** for mammal extinctions?
   1. How many mammal extinctions have occurred in Australia since 1788? What is the cause of these extinctions?

**Environmental Ethics**

1. What is **environmental ethics**?
2. What does **anthropocentrism** mean? Describe the philosophy.
3. What does **ecocentrism** mean? Describe the philosophy.
4. The proposed Hetch Hetchy dam was the first big debate between anthropocentrists and ecocentrists. Explain what each group wanted to do.

**Anthropocentrists-**

**Ecocentrists -**

1. Was the dam constructed? Describe the reasoning. What environmental ethics philosophy aligns with this reasoning?
2. What was the focus of the **resource conservationism** philosophy?
   1. What two federal systems were created during this time?
3. Two events lead to the beginning of the **modern environmentalism** movement. What were they?
   1. What is the primary concern of modern environmentalists?
4. What is **global environmentalism**?

**The Tragedy of the Commons**

1. The *Tragedy of the Commons* essay describes the source of environmental problems as…
2. What is a **commons**?
   1. What tends to happen to commons areas?
   2. What are modern examples of commons areas?

**Economics and the Environment**

1. Define **supply-and-demand** –
   1. Give an example.
2. Define **cost/benefit analysis –** 
   1. Give an example.
3. Describe the conditions found in a **developing country**.
4. Describe the conditions found in a **developed country**.

1. Which type of country has the smaller population size? Which consumes more resources?
2. Compare and contrast developing and developed countries:

|  |  |  |
| --- | --- | --- |
|  | **Developed**  **United States** | **Developing**  **Indonesia** |
| **Life expectancy** | |  |  |
| **Population Growth Rate** | |  |  |
| **Wealth** | |  |  |
| **Energy Use** | |  |  |
| **Pollution Rate** | |  |  |
| **Waste Creation** | |  |  |

1. What factors are considered when calculating an ecological footprint?
2. What is **sustainability**?
3. Sustainability is important because the Earth is a **closed system**. What does this mean?