**(AP) ENVIRONMENTAL SCIENCE 2022-23 November 30, 2022**

**Today’s Agenda (Day 62)**

1. Housekeeping Items

🡪 BRING: yeast, molasses, dried beans

1. Homework Check:

🡪 Ecological Footprint Calculator Activity

🡪 Chapter 8 & 9 Vocabulary

🡪 Chapter 8 Reading Guide

1. Class Activity:

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🡪DAY 3: Chapter 8 PPT Review

1. **Section 8.2 – How energy is used**
2. Section 8.3 – Electrical Energy
3. Section 8.4 – The economics and politics of energy use
4. Section 8.5 – Energy consumption trends

HOMEWORK:

* READ: Chapter 8 – Energy and Civilization: Patterns of Consumption
* COMPLETE:
* **STUDY**: Chapter 8 – 9 Vocabulary and Ch 8 Test

Chapter 8 & 9 Vocabulary

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| Absorbed dose | Acid mine drainage | Alpha radiation | Anthracite | Beta radiation | Bituminous |
| Black lung disease | Coal | Crude oil | Dose equivalent | Fissionable | Fossil fuels |
| Gamma radiation | Hydraulic fracturing (fracking) | Industrial Revolution | Ionizing radiation | Lignite | Liquified natural gas |
| Mountaintop removal | Natural gas | Non-renewable energy sources | Nuclear chain reaction | Nuclear fission | Nuclear reactor |
| Oil shale | Open pit mining | Ore | Overburden | Peat | Petrochemicals |
| Petroleum (crude oil) | Plutonium-239 | Radiation | Radioactive | Radioactive half-life | Renewable energy sources |
| Reserves | Resource | Smelting | Spoils | Strip mining | Surface mining |
| Tar sands | Underground mining | Uranium-235 |  |  |  |

REMINDERS

* **TEST: Ch 8 🡪 Dec. 2**
* **QUIZ: Ch 8 and 9 Vocabulary – Dec. 6**
* **MIDTERM EXAM: Ch 1 - 9**

**(AP) ENVIRONMENTAL SCIENCE 2022-23 READING GUIDECHAPTER 8**

REVIEW QUESTIONS

1. How did the domestication of animals change energy use in early cultures?

2. In addition to food, what energy requirements does a civilization have?

3. How was the availability of coal important in determining if a country participated in the Industrial Revolution?

4. What factors caused a shift from wood to coal as a source of energy?

5. What major factor caused a shift to the use of oil as a source of energy?

6. Describe two factors that have led to the dominance of automobiles as a form of transportation in the United States.

7. Describe two actions governments take that cause changes in how citizens use energy.

8. What advantages does electrical energy have over other kinds of energy?

9. State two reasons the cost of electricity differs from one country to another.

10. List the three primary categories of energy use in industrialized societies.

11. Why is OPEC important in the world’s economy?

12. Give examples of how political and economic events affect energy prices and usage.

13. Based on current trends, what is likely to happen to the availability and price of energy in the next ten years?

CRITICAL THINKING QUESTIONS [for APES students only]

1. Imagine you are a historian writing about the Industrial Revolution. Imagine that you also have your new knowledge of environmental science and its perspective. What kind of a story would you tell about the development of industry in Europe and the United States? Would it be a story of triumph or tragedy, or some other story? Why?

2. What might be some of the effects of raising gasoline taxes in the United States to the rate that most Europeans pay for gasoline? Why? What do you think about this possibility?

3. Some argue that the price of gasoline in the United States is artificially low because it does not take into account all of the costs of producing and using gasoline. If you were to figure out the “true” cost of gasoline, what kinds of factors would you want to consider?

4. How has the ubiquitous nature of automobiles changed the United States? Do you feel these changes are, on balance, positive or negative? What should the future look like regarding automobile use in the United States? How can this be accomplished?

5. The Organization of Petroleum Exporting Countries (OPEC) controls over 70 percent of the known oil reserves. What political and economic effects do you think this has? Does this have any effect on energy use?

6. How do you think projected energy consumption will affect world politics and economics, given current concerns about global warming?