

APES – Review Book - Activity – CHAPTER 1

READ the Chapter 1 Review and complete the following WS. Please study the summarized content to help you understand the **KEY Terminology** and the **KEY concepts**.

The responses are hand generated (in PEN). You don't need to print this document, you just need the lined paper to respond to the questions.

I. **Key Terms:** Make sure to memorize the terms. *(There will be quiz on each Chapter Review)*

II. Answer the **Comprehension Questions and/or Concept Topics:**

1. Explain: Renewable Resources – (give 3 examples)
2. Explain: Nonrenewable Resources – (give 3 examples)
3. One of the most misunderstood terms used in the APES responses is “**sustainability**”. According to your understanding define what sustainability means:

A) How is poverty impacting sustainability?

B) How is affluence impacting sustainability?

4. Who defined **The Tragedy of the Commons** for the first time? Apply the theory to the “bathroom situation in AUC”

5. Explain the relationship between:

➤ developing country and Gross Domestic Product

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6. Define **ecological footprint** – explain in a few words what is your footprint. Are there more **needs** or **wants** in your footprint?

7. Ecosystem Services are one of the most important **services** the nature provides to humans. List all ecosystem services from the passage and then pick 3 to explain how those services are having **economical value** for human society. Explain **provisioning services**.

Passage: *Ecosystem services refer to the various benefits that ecosystems provide to society, often termed natural capital. These services encompass essential functions such as climate regulation, water supply, wildlife habitat maintenance, and the production of food, fiber, and raw materials. The relationship between humans and ecosystems is vital for overall well-being, as these services are foundational to sustaining life and supporting economic activities. Ecosystem services fall into several categories: supporting services, which include nutrient cycling and soil formation; provisioning services, such as food and freshwater supply; regulating services, which manage climate and flood control; and cultural services that enhance recreational and aesthetic experiences.*

8. Who was Aldo Leopold?

9. Define: **pollution**

- A) Explain the point source pollution and give one example.
- B) Explain the nonpoint source pollution and give one example.

10. Many questions in FRQs are set up as an **EXPERIMENT** or you will be asked to write/set up an **EXPERIMENT**. Study the *Experimental Design* section and write a simple experiment. (your own!)

11. APES deals with quite a bit of chemistry when it comes to pollution sources, causes, and forms. The Chemistry section focuses briefly on some very common chemicals (pollutants) and the sources. Start reviewing and memorizing them as we go through the chapter reviews.

- 1. Explain the difference between *naturally occurring chemicals* vs. *anthropogenic chemicals*. Support your response with examples.
- 2. What is the **AP Tip** about?
- 3. Define ALL listed elements in this section – their symbol, source, occurrence, use, cycle, etc.

12. Explain **acidity and pH scale** of the environment – water and soil. How do you fix the acidity of those two environments (water, soil)

13. Define: **radioactive element and half-life**

14. Define: **Energy, Power, and Heat**.

A) REMEMBER: 1 cal = 4.184 J and 1 Btu = 252 cal = 1055 J

15. **REVIEW:** 1st and 2nd thermodynamic laws

16. **STUDY** and **MEMORIZE** the prefixes for the conversions. ALL word problems (math) will ALWAYS work with SI units, UNLESS specify differently.

A) PRACTICE the conversion and solve the practice problem.

17. **STUDY: Positive and Negative Loop** – after understanding the topic provide:

- A) Positive loop example (other than in a book)
- B) Negative loop explanation (other than in a book)
- C) What is the **AP Tip** this time?