

# WRITING A FREE RESPONSE FOR A.P. ENVIRONMENTAL SCIENCE

The free response section of the APES exam has 4 questions and you will be given 90 minutes to complete them. That averages out to 22-23 minutes for each. We will be practicing this pace throughout the year.

## General rules

- Read the question twice.
- Underline the requirements of the question (list, describe, cause and effect, explain, etc.) Circle any vocabulary that may help identify the concept highlighted by the question.

**List/Identify** – Short concise sentences

**Explain** – Tell how to do, tell the meaning of, tell why... give reasons for

**Describe** – 2 -3 sentences with vocabulary and examples

**Discuss** – To consider from various points of view... show your reasoning

**Compare** – Point out similarities, to examine 2 or more objects and consider the likenesses.

**Contrast** – Point out differences, to examine 2 or more objects and consider the differences

**Define** – Give a meaning for a word or phrase

- If it asks anything besides identify, you should write at least two sentences. One stating your clear, specific answer and the second providing supporting evidence, examples or a detailed description.
- How many examples are requested? If the question asks for two, only the first two will be graded.
- Outline the answer to avoid confusion and disorganization. Thinking ahead helps to avoid scratch outs, asterisks, skipping around and rambling
- Label each section as it is labeled in the question (a., b., c. or i., ii., iii.) and answer the questions in order. Leave a two to three line break between each section so you can come back later to add additional information.
- Do not rewrite the question; it is a waste of time for you and the reader.
- Make sure the answers are legible. It's hard to earn points if your answer can't be read.
- Each answer should be written in prose form (complete sentences); outline form or bullets are not acceptable and not credit be received.
- Write with a purpose. Do not wander off the point. For each statement you write, ask yourself, "Why did I write this?" or "So what?"
- Define and/or explain any vocabulary terms you use. Say something about each of the important terms that you use. Prove that you aren't just throwing words around, but that you *understand* them.
- Do not use vague terms. If you find yourself writing something vague, follow it up with a specific example. (Name a specific chemical that will cause the pollution and explain its impacts, name a specific specie or type of specie that would be impacted and explain how, name a specific law or specific possible law that will illustrate whatever you are talking about, etc.)
- Each question is graded on a 10-point scale. The grading rubric is set up to contain slightly more than 10 points (e.g., 11-13). However, you can only earn a maximum of 10 points on any one question.
- Remember, *you have an average of 22.5 minutes per question.*

### **If the question asks for a graph to be made:**

- Label each axis with a name and with units
- Scale and number the axes correctly
- Title the graph
- Use the correct type of graph (line graph vs. bar graph)

### **If the question asks a mathematical problem:**

- Even if you can do the math in your head, show each step
- Set up problems so that labels cancel out (dimensional analysis)
- Include units in each step to insure it is correct and in the answer
- If numbers are very large or very small, use scientific notation if at all possible
- Write answers with labels
- Does the answer make sense? A monthly light bill for a family should not be in the trillions of dollars

### **If the question asks for lab design:**

- State a hypothesis in the “If, then” format
- Describe each step of a planned experiment in detail
- State exactly what the controls are
- Make sure to mention that the experiment uses multiple samples (50+) or is repeated multiple times
- Describe expected results

Avoid the use of vague and “flowery” terms and phrases. These terms and phrases may sound descriptive, but they frequently say little and provide none of the detail needed to earn credit. To avoid them you should try to explain yourself as best as possible using more detail.

### **The following is a list of the types of terms and phrases that should be avoided:**

1. “bad for the environment / planet”
2. “cause environmental degradation”
3. “cause global warming and pollution”
4. “change” without of specifying increase or decrease.)
5. “destroy the environment”
6. “disrupt the environment”
7. “disturb the environment”
8. “ecofriendly”
9. “good for the environment”
10. “greener”
11. “global solution”
12. “global catastrophe”
13. “global cooperation”
14. “harm the environment”
15. “harmful / dangerous chemicals” (without specifying.)
16. “help keep the habitat cleaner”
17. “human footprint”
18. “human impact”
19. “provide incentives” (without specifying)
20. “kill all the plants/animals/wildlife”
21. “make it illegal” or “the water law” or “the air law” (Without identifying relevant laws.)
22. “make it more / less expensive” (When referring to incentives.)
23. “mother nature “
24. “overconsumption of natural resources”
25. “pollute the environment”
26. “pollute the water / air / soil” (Without specifying.)
27. “restore the environment”
28. “repair the damage”
29. “save the Earth”
30. “save the planet”
31. “stop global warming”
32. “sustainable” (Without elaboration.)
33. “toxins”, “pollution”, “chemicals” & “health effects” (without specifying)
34. “\_\_\_\_\_ the habitat” (impact, change, alter)
35. “\_\_\_\_\_ the ecology” (destroy, restore, maintain, support, harm, compromise, reinvent...)