



AP[®] Environmental Science 2000 Scoring Commentary

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**AP[®] ENVIRONMENTAL SCIENCE
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Question 1

Sample Q – Score 10

This is a good example of a student who scored 10 points on question 1. The calculations in parts (a) and (b) are clearly shown. The student was able to clearly and accurately describe and elaborate of methods of reducing sulfur emissions from power plants, as well and discuss an environmental problem and specific negative effect associated with sulfur emissions.

Sample R – Score 7

This paper is a good example of a student who did very well on the calculation portion of the question, and was able to adequately described two methods of reducing sulfur emissions. The student did not, however, discuss a valid environmental problem associated with sulfur emissions.

Sample S – Score 7

This paper is a typical example of a student who did not clearly carry units through the calculations. The student received two of three points in part (a), but no points in part (b) as there was no indication of how the answer in part (b) was reached. The student received one point in part (c) and one point in part (d).

Question 2

Sample Q – Score 9

This paper is a very good example of a clearly written, direct answer to this question. The student received three of the four points possible in part (b) for showing how the evidence cited would be used to evaluate the environmental benefits and costs of recycling newspaper. This student received two points each for parts (a), (c), and (d).

Sample R – Score 7

This sample is typical of where most students lost points on this question. The student received two points each for parts (a), (c), and (d). In part (b), however, the student was awarded only one point. In this sample, as in a significant number of papers, most of the arguments presented only one side of the scientific information that would be needed to evaluate environmental benefits and costs of recycling newspaper.

Sample S – Score 6

This is an example of a paper where the points awarded were spread throughout the answer. The student was able to present two valid pieces of scientific information needed to evaluate the benefits or costs of recycling. The student earned only one point each in parts (c) and (d).

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Question 3

Sample Q – Score 10

This student gave a thorough answer that was typical of students who scored highly on the question. An endangered species (giant panda) was identified and a reason for its declining population given. Three characteristics that would make a species vulnerable to extinction were cited and clearly explained. The student presented three sound arguments for maintaining biodiversity, before going on to name and describe the Endangered Species Act.

Sample R – Score 8

This student did not correctly identify an endangered species, but scored the maximum number of points in the other sections. Well-explained examples were given in part (b), and concise arguments made in part (c). The Endangered Species Act was named and described in part (d).

Sample S – Score 6

The manatee was named as the endangered species and a reason for its decline stated. The student scored full points in part (b), did not any receive credit for part (c), and was awarded one point for naming the Endangered Species Act.

Question 4

Sample Q – Score 10

The student gave a well thought out answer, representative of those receiving a high score on this question. The countries with the largest and smallest rates of population growth were correctly identified and explained. A sound comparison and reasoning for the difference in infant mortality between Countries X and Y was given in part (b). The description of the demographic transition was concise and showed a high degree of clarity, scoring maximum points for part (c). In part (d), an incentive was stated and a linked drawback to the incentive was described, allowing the student to receive one point for each.

Sample R – Score 8

The student received the maximum number of points in parts (a) and (b), but only attained one point in part (c) for stating that both the birth and death rates decrease as a country becomes industrialized. One point was given for naming an incentive and a further point was attained for a linked drawback in part (d).

Sample S – Score 6

This paper is a good example of a student answer that scored in the mid-range for this question. The student correctly identified Country X as having the largest and Country Y as having the smallest rate of population growth, receiving one point for each answer. No credit was given for part (b). One point was awarded in part (c) for stating that both the birth and death rates decrease as a country becomes industrialized. In part (d), the student scored the maximum number of points for naming an incentive, explaining how it would work, and describing a drawback which was linked to the incentive.