

## CHAPTER 25 WHAT THEN SHALL WE DO?

### Chapter Overview

The material in this chapter discusses how individuals, along with groups, can make a difference when it comes to the environment. It explores two fundamental concepts, environmental education and decision-making. Again, the topic of sustainability is emphasized.

### Topics and Key Concepts

*While material covered in Chapter 25 will not be tested directly on the AP Exam, the content in this chapter will give you an opportunity to synthesize what you have learned throughout the course.*

- Summarize environmental literacy.
- Summarize the actions of the various NGOs in the U.S. which work to protect the environment.
- Summarize the goals of the World Commission on Environment and Development

### Key Terms

affluenza  
citizen science  
conspicuous  
consumption  
environmental literacy

life-cycle analysis  
nongovernmental  
organizations  
(NGOs)

\*planned  
obsolescence

### Pacing Guide

Consider using this chapter at the beginning, as well as the end, of the course. Students likely enrolled in the class because they were interested in learning more about the world they live in, as well as what they can do to make the world a better place. Plan to spend 1-2 days discussing how to think globally but act locally.

### Approach and Tips

You have reached the final chapter in the book, and chances are you are near the end of the time you have for the course. If you have reached this point before the

AP exam, limit your discussion time to include “What Can You Do?” on p. 569 and the Millennium Development Goals on p. 579.

If you have more time after the AP exam, expand on the concept of environmental literacy. The National Environmental Education Act, passed in 1990, set two goals: 1) improve understanding of the relationship between humans and the environment, and 2) develop problem-solving skills and awareness of environmental problems. Environmental education prepares us for life in the twenty-first century. Environmental literacy establishes a stewardship ethic.

Reintroduce the concept of sustainable development. Now that students have knowledge about environmental issues, they can address this topic fully. They should conclude that sustainable development is based on using renewable resources. It is equally important that all countries, regardless of wealth, adopt these policies. Discuss the goals of the Millennium Assessment. The Millennium Development Goals helped us set objectives that all countries could reach.

Stewardship is another topic to cover if you have time. As far as individual behavior, discuss the concepts of conspicuous consumption and affluenza. Have students give examples of conspicuous consumption. Make sure students know the importance of being an informed consumer. Environmental action groups have worked together for a common purpose. Students should be able to discuss examples of these types of groups. In addition, they should know about NGOs. Using examples of NGOs, have students discuss the mission of these organizations, how they are funded, and who is a part of each organization. Be sure to discuss environmental groups that are not actually pro-environment, as well as some of the very radical groups which practice ecotage. It is important that students realize that not all groups are what they seem upon superficial examination.

## **Common Mistakes and Misconceptions**

Quite often, students think that they must always provide a scientific answer. Sometimes, the answer is as simple as shutting off the lights when not in the room. Students need to realize that logic and common sense play a role in environmental science. Students also have the tendency to think big. It is not always the big polluters. Individuals can make an impact by making proper choices in their daily lives. It is the big polluters that are primarily the problem. In fact, everyone bears a responsibility to the environment. Emphasize that local sustainable practices can then become global sustainable practices.

## Activities

### What Can You Do Activity

Have the students come up with a campaign to think globally but act locally. One example could be to write a letter to their congressman about a local environmental issue. Another idea would be if Styrofoam trays were being used in the cafeteria, students could write a letter to the school board to get reusable trays instead. They could start an information campaign to put posters up in the halls or announcements over the intercom to give facts and tips to students on ways to help the environment. This activity is something you could complete if the AP exam occurs a few days or weeks ahead of the end of the school year. Students may also wish to create posters promoting the 5 Rs, water conservation, and other environmental choices that individuals can make.

### Questions for Review

1. What is an NGO? How can they affect environmental decisions?  
*An NGO is a non-governmental organization such as The Nature Conservancy. NGOs have lawyers that can challenge decisions made regarding the environment, and can organize local groups expand public interest and gain funding for projects. The National Audubon Society won a lawsuit with regard to withdrawing water from the tributaries of Mono Lake. NGOs can buy land for conservation and preservation as well.*
2. What is meant by “campus greening”?  
*It is the name given to universities and colleges taking the lead in promoting sustainable solutions to environmental problems.*
3. How does conspicuous consumption and affluenza interconnected?  
*Conspicuous consumption is the buying of goods to impress others. Some This may be driven by, and in turn increase the power of, affluenza, which is the drive to possess things.*
4. What is the Millennium Assessment?  
*The Millennium Assessment was put forth by UN Secretary-General Kofi Annan. The Millennium Assessment uses the consequences of ecosystem change on human well-being as well as the scientific basis for actions to enhance the conservation and sustainable use of those systems. More than 1360 experts from around the world worked on technical reports about the conditions and trends of ecosystems, scenarios for the future, and possible responses. It provided for the sustainable use of resources and actions to enhance conservation.*

## Practice Questions

### Multiple Choice:

*Directions for questions 1–5:* The lettered choices below correspond to the descriptions given in questions 1–5. Select the one lettered choice that best fits each statement. Each choice may be used once, more than once, or not at all.

- (A) NGO
- (B) environmental literacy
- (C) millennium assessment
- (D) LEED-certified
- (E) conspicuous consumption

1. buying a ROLEX watch so others notice
2. The Sierra Club
3. possessing the knowledge of ecology and environmental wisdom
4. a green building with natural light, clean air, and no allergens
5. proposed by UN Secretary-General Kofi Annan
6. An example of citizen science is
  - (A) a Christmas bird count.
  - (B) making a volcano for a science-fair competition.
  - (C) driving my SUV to and from work.
  - (D) experimenting with my diet.
  - (E) taking my dog for a walk.
7. Which of the following is **NOT** an anthropogenic disturbance?
  - (A) severe drought in a grassland biome
  - (B) agricultural crop production
  - (C) forest fire started by a cigarette butt
  - (D) eutrophication caused by fertilizer runoff
  - (E) damming a river for hydroelectric power
8. The drive to possess stuff is called \_\_\_\_\_.
  - (A) conspicuous consumption
  - (B) more is not enough
  - (C) shopaholism
  - (D) environmentalism
  - (E) affluenza

9. All of the following are outputs of the product lifecycle, except
- (A) solid wastes.
  - (B) energy.
  - (C) water effluents.
  - (D) useable products.
  - (E) smokestack emissions
10. What two must be present for the manufacturing of any product?
- (A) raw materials and useable products
  - (B) energy and water effluents
  - (C) raw materials and energy
  - (D) energy and airborne emissions
  - (E) raw materials and solid wastes

Free-Response Question:

*Directions:* Answer all parts of the following question. Where explanation or discussion is required, support your answers with relevant information and/or specific examples. When a calculation is required, be sure to show how you arrived at your answer.

1. At each stage of its life cycle, a product receives inputs, produces outputs, and releases wastes to the environment.
- (a) Describe **two** inputs of using coal as a source of electricity.
  - (b) Describe **two** outputs of using coal as a source of electricity.
  - (c) Identify **two** alternatives for using coal as a source of electricity.
  - (d) What can a society do if they decide that coal is not a good choice for the environment?
  - (e) Identify an NGO, and explain how they may affect change.

## Answers to Practice Questions

### Multiple Choice:

1. E
2. A
3. B
4. D
5. C
6. A
7. A
8. E
9. B
10. C

### Free-Response Question:

This question is based on 10 points.

1. (a) 2 points total. 1 point for each description of inputs. Inputs include mining the coal by strip mining or mountaintop removal, and using fossil fuels to transport and/or mine the coal.  
  
(b) 2 points total. 1 point for each description of outputs. Outputs include: energy, CO<sub>2</sub> emissions leading to global warming, mercury emissions, and sulfur oxide emissions leading to the formation of acid rain.  
  
(c) 2 points total. 1 point for each identification. Identifications include: solar, biomass, nuclear, wind power, and hydroelectric.  
  
(d) 2 points total. 1 point for each action taken. Actions can include: attending a protest, joining an environmental action group, and writing letters to Congress.  
  
(e) 2 points total. 1 point for naming an NGO, and 1 point for explaining what they can do. NGOs: the Sierra Club, National Wildlife Federation, the Nature Conservancy, National Audubon Society, and Defenders of Wildlife. Explanations include, but are not limited to: protests, letter writing, and law suits.

## Answers to questions in the Student Edition:

### Case Study AP Document-Based Question (page 564)

- (A) Organizations like 350.org partially owe their success to the popularity of social media and the rise of technology. The events that 350.org organizes would not be nearly as popular without spreading awareness of the event through social media sites and the internet. Their events would not have the same impact if organizers had to raise awareness without social media by using traditional methods of flyers, phone calls, and people canvassing neighborhoods, which is how grassroots organizations in 2000 had to do their work. The results of the 350.org's events would not be as well known if photos and results of the event could not be spread through popular social media photo sharing apps and websites.
- (B) Examples of events that could be organized to raise awareness of global climate change for 350.org include: a fundraising walk in several cities on the same day, planting trees in many cities on the same day, starting community gardens in many cities, or encouraging people to turn off all electric devices for the same hour each month.

### AP Connections Review Answers (pages 579-580)

#### Multiple-Choice

1. b. Filling in a wetland to promote development of urban areas would be approved of by the wise use movement. The other examples protect habitat and species.
2. e. All are NGOs with their correct subject except e. The Abundant Wildlife Society of North America promotes hunting and trapping of wildlife. The group formed in response to the plan to repopulate Yellowstone with wolves. NGOs are large influential organizations that work for social change.
3. a. Buying disposable razors is not an example of green shopping. Green shopping would be to purchase razors where just the blades can be replaced or to use a rechargeable electric razor.
4. c. The Earth Charter specifically states that economic activities and institutions promote human development in an equitable and sustainable manner.

#### Data Analysis and Free-Response Questions

1A Green jobs increased by approximately 50,000 jobs from 1995 to 2010.

1B The most common type of green job in 2010 was energy generation. The rate of growth in this sector from 2000 to 2010 is 80%.  $((45,000-25,000)/25,000*100)$

1C: Answers will vary.

2A Answers will vary, but two NGOs include 350.org and the Sierra Club. 350.org's mission is to raise awareness and action concerning climate change issues, like climate justice, and to collaborate in mass mobilizations. They have made significant strides with thousands of grassroots events organized in over 188 countries. Sierra

Club's mission is to influence policy and organize members to protect the environment. They have made great progress with over 2.5 million members, a large budget, and 20 professional lobbyists in Washington D.C.

2B Challenges NGOs face include funding for projects, staffing, and operational costs, and developing the connections to make progress working to change legislation and industry practices.