Chapter 1 “Environmental Problems, Their Causes, and Sustainability”

Guided Reading Questions

Directions: As you read Chapter 1 on textbook pages 5 – 28, answer the following questions in order to prepare for the Unit 1 Test. This assignment is due when Unit 1 Test is given.

Lesson 1-1: What Are Three Principles of Sustainability?

1. Define environment.
2. Distinguish among environmental science, ecology, and environmentalism.
3. Distinguish between an organism and a species.
4. What is an ecosystem?
5. Define natural capital, natural resources, and natural services.
6. Define nutrient cycling and explain why it is important.
7. Describe how we can degrade natural capital and how finding solutions to environmental problems involves making trade-offs.
8. Explain why individuals matter in dealing with the environmental problems we face.
9. What is a resource?
10. Distinguish between a perpetual resource and a renewable resource. Give an example of each.
11. What is sustainable yield?
12. Define and give 2 examples of a nonrenewable resource.
13. Distinguish between recycling and reuse and give an example of each.
14. What is economic growth?
15. Distinguish between gross domestic product (GDP) and per capita GDP.
16. Distinguish between more-developed countries and less-developed countries.
17. Give an example of a high-income, a middle income, and a low-income country.

Lesson 1-2: How Are Our Ecological Footprints Affecting the Earth?

18. Define and give 3 examples of environmental degradation (natural capital degradation).
19. Define pollution.
20. Distinguish between point source and nonpoint sources of pollution.
21. Distinguish between pollution cleanup (output pollution control) and pollution prevention (input pollution control) and give an example of each.
22. Describe 3 drawbacks to solutions that rely mostly on pollution cleanup.
23. What is the tragedy of the commons?
24. What is an ecological footprint?
25. What is a per capita ecological footprint?
26. Compare the total and per capita ecological footprints of the United States and China.
27. Use the ecological footprint concept to explain how we are living unsustainably.
28. What is the IPAT model for estimating our environmental impact?
29. Explain how we can use the IPAT model to estimate the impacts of the human populations in less-developed countries and more-developed countries.
30. Describe the impacts of China’s new affluent consumers.
31. What is an ecological tipping point?
32. Define culture.
33. Describe 3 major cultural changes that have occurred since humans were hunter-gatherers.
34. What would a sustainability revolution involve?

Lesson 1-3: Why Do We Have Environmental Problems?

35. Identify 4 basic causes of the environmental problems that we face today.
36. What is exponential growth?
37. Describe the past, current, and projected exponential growth of the world’s human population.
38. What is affluence?
39. How do Americans, Indians, and the average people in the poorest countries compare in terms of consumption?
40. What are 2 types of environmental damage resulting from growing affluence?
41. How can affluence help us to solve environmental problems?
42. What is poverty and what are 3 of its harmful environmental and health effects?
43. Describe the connection between poverty and population growth.
44. Explain how excluding from the prices of goods and services the harmful environmental costs of producing them affects the environmental problems we face.
45. What is the connection between government subsidies, resource use, and environmental degradation?
46. What is an environmental worldview?
47. What are environmental ethics?
48. Distinguish among the planetary management, stewardship, and environmental wisdom worldviews.

Lesson 1-4: What Is An Environmentally Sustainable Society?

49. Describe an environmentally sustainable society.
50. What is natural income?
51. What is social capital?
52. Describe the environmental transformation of Chattanooga, Tennessee.
53. How long do some scientists estimate that we have to make a shift to more environmentally sustainable economies and lifestyles?