

Chapter 01 - Environmental Problems - Their Causes - and Sustainability

True / False

1. In the 1980s, there was a backlash against environmental laws and regulations, led by some who argued that environmental laws were hindering economic growth.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.3 - Specify the four major causes of environmental problems.

2. An important goal of environmental science is to learn how life on the earth has thrived and survived.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

3. Sustainability is the capacity of the earth's natural system and human cultural systems to survive, flourish, and adapt to changing environmental conditions in the very long-term future.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: Core Case Study: The Greening of American Campuses

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

4. Polluting substances enter the environment through human activities alone.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.2.1 - Discuss two sources of pollution.

5. Natural resources are considered natural capital, whereas natural services are not.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

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6. Exponential growth occurs when a quantity such as the human population increases at a fixed percentage per unit of time, such as 0.5% or 2% per year.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

7. Government subsidies can actually encourage companies to conduct business in ways that result in environmental degradation.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

8. According to the human-centered environmental worldview, all species have value as participating members of the biosphere, regardless of their potential or actual use to humans.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE S: ENV5.MLSP.16.1.3.5 - Outline three environmental worldviews of environmental problems and solutions.

9. Pollution cleanup efforts focus on greatly reducing or eliminating the production of pollutants.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

10. Resource use per person is higher in the United States than it is in middle-income countries like China.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

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11. In order for the social changes to occur that will produce sustainable economies, fully 50% of the population of a country must support the change.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.4 What Is an Environmentally Stable Society?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.4 - Specify the means of achieving an environmentally sustainable society.

12. Biodiversity is defined as the variety of genes, organisms, species, and ecosystems in which organisms exist and interact, and plays an important role in the long-term sustainability of life on Earth.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

13. Inexhaustible resources exist in a fixed quantity, or stock, in the earth's crust.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

14. One social science principle of sustainability is that we should leave the planet's life-support systems in at least as good a condition as that which we now enjoy, if not better, for future generations.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

15. The tragedy of the commons is a phenomenon that occurs only when the number of users of a resource is small.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

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LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

16. Natural capital degradation is a consequence of living unsustainably.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

17. Indirect forms of solar energy, such as wind and flowing water, provide us with inexhaustible power that we can use to produce electricity.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

18. The per capita ecological footprint is the total ecological footprint for a given country or area.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

19. Affluence always has negative environmental effects.

- a. True
- b. False

ANSWER: False

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3.2 - Discuss how affluence has harmful and beneficial environmental effects.

20. The "tragedy of the commons" refers to a situation in which the cumulative effect of large numbers of people trying to exploit a widely available or shared resource can degrade it and eventually exhaust or ruin it.

- a. True
- b. False

ANSWER: True

DIFFICULTY: Bloom's: Remember

Chapter 01 - Environmental Problems - Their Causes - and Sustainability

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.2.3 - Discuss two major ways to deal with the overexploitation of commonly shared renewable resources.

Multiple Choice

21. Which term best describes the processes provided by healthy ecosystems that support life and human economies at no monetary cost to us?

- a. nonpoint sources
- b. point sources
- c. sustainable principles
- d. natural resources
- e. ecosystem services

ANSWER: e

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

22. Environmental science can be described as interdisciplinary because it ____.

- a. allows for a rigorous study of the environment
- b. includes topics that are not explored in other disciplines
- c. often assigns responsibility to causes of environmental degradation
- d. is rapidly evolving over time into a different form of science
- e. includes biology, chemistry, geology, social sciences, and the humanities

ANSWER: e

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

23. What is one of the three goals of environmental science, as proposed by your text?

- a. Reduce affluence.
- b. Understand how we interact with the environment.
- c. Acquire a life-centered environmental worldview.
- d. Enhance environmental degradation.
- e. Reduce the use of technology.

ANSWER: b

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

24. What is a social movement that is dedicated to trying to sustain the earth's life-support system for all forms of life?

- a. ecology
- b. environmental science

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- c. environmentalism
- d. preservationism
- e. sustainability

ANSWER: c

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

25. Which term encompasses all of the others?

- a. natural capital
- b. natural resources
- c. ecosystem services
- d. renewable resources
- e. nonrenewable resources

ANSWER: a

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

26. Nonrenewable, nonmetallic mineral resources include ____.

- a. copper
- b. solar energy
- c. sand
- d. trees
- e. clean air

ANSWER: c

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

27. You are installing solar collectors on the roof of your home to cut your use of the propane gas that heats both your hot water tank and the living spaces in your home. In doing so, you are using a(n) ____ resource rather than a(n) ____ resource.

- a. renewable; nonrenewable
- b. inexhaustible; renewable
- c. renewable; inexhaustible
- d. nonrenewable; renewable
- e. inexhaustible; nonrenewable

ANSWER: e

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable

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: resources.

28. One reason biodiversity is such an important aspect of sustainability is that it ____.
- a. maintains a ready supply of new materials for water, soil, and food
 - b. is the ultimate source of energy for plants
 - c. provides vital ecosystem services through the interactions among species and keeps any population from growing too large
 - d. makes life less susceptible to constant adaptation and changing environmental conditions
 - e. increases ecotourism in less developed countries

ANSWER: c

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

29. Which process best illustrates an ecosystem service?

- a. natural gas fracking
- b. pollution cleanup
- c. water purification
- d. oil mining
- e. soil erosion

ANSWER: c

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

30. What term best describes the living and nonliving things with which we interact in a complex web of relationships?

- a. natural capital
- b. biodiversity
- c. the environment
- d. the chemical cycle
- e. the preservationist school

ANSWER: c

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.1.1 - Define environment, ecology, and ecosystem.

31. A group of organisms with a unique set of characteristics that distinguish it from other groups of organisms is called a(n) ____.

- a. species
- b. ecosystem
- c. sustainable society
- d. natural resource
- e. population

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ANSWER: a
DIFFICULTY: Bloom's: Remember
REFERENCES: 1.1 What Are Some Principles of Sustainability?
LEARNING OBJECTIVES: ENVS.MLSP.16.1.1.1 - Define environment, ecology, and ecosystem.

32. Why is there such little waste in nature?
- a. The sun is an inexhaustible resource.
 - b. Organisms naturally avoid activities that create unnecessary waste.
 - c. The wastes and decayed bodies of any organism become nutrients or raw materials for other organisms.
 - d. The earth is so vast that natural waste is not easily identified.
 - e. Waste is chemically unstable.

ANSWER: c
DIFFICULTY: Bloom's: Analyze
REFERENCES: 1.1 What Are Some Principles of Sustainability?
LEARNING OBJECTIVES: ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

33. Your text refers to the dependence on solar energy, biodiversity, and chemical cycling as three major natural factors of ____.

- a. resource guidelines
- b. ecological footprints
- c. environmental tenets
- d. scientific principles of sustainability
- e. preservationist goals

ANSWER: d
DIFFICULTY: Bloom's: Remember
REFERENCES: 1.1 What Are Some Principles of Sustainability?
LEARNING OBJECTIVES: ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

34. Which resource would best be categorized as inexhaustible?

- a. oil reserves
- b. fisheries
- c. solar energy
- d. forests
- e. coal reserves

ANSWER: c
DIFFICULTY: Bloom's: Remember
REFERENCES: 1.1 What Are Some Principles of Sustainability?
LEARNING OBJECTIVES: ENVS.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

35. Which resource is nonrenewable?

- a. geothermal energy
- b. solar energy

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- c. freshwater
- d. copper
- e. trees

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

36. According to the ____, all species have value as participating members of the biosphere, regardless of their potential or actual use to humans.

- a. human-centered environmental worldview
- b. earth-centered environmental worldview
- c. life-centered environmental worldview
- d. sun-centered environmental worldview
- e. geo-centered environmental worldview

ANSWER: c

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

37. Oil is a(n) ____.

- a. nonrenewable resource because it cannot be formed on human time scales
- b. renewable resource because it can be renewed through geologic processes
- c. inexhaustible resource because it is a form of stored solar energy
- d. ecosystem service because oil is a valuable commodity
- e. renewable resource because it can be used to make fertilizers that restore soil fertility

ANSWER: a

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

38. Middle-income countries such as India and China may have low ____, but they have a high ____.

- a. population size; population growth rate
- b. overall environmental impact; population growth rate
- c. population size; resource use per person
- d. overall environmental impact; resource use per person
- e. resource use per person; overall environmental impact

ANSWER: e

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

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39. Many economists propose finding ways to include the harmful environmental and health costs of producing and using goods and services in their market prices. What is this practice called?

- a. biodiversity
- b. hidden appraisals
- c. subsidizing
- d. full-cost pricing
- e. external valuations

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

40. About 80% of the world's human population live in ____.

- a. nations with high average income per person
- b. the United States, Japan, Australia, and Germany
- c. more-developed countries
- d. less-developed countries
- e. environmentally-sustainable societies

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.10.1 - Describe the causes and consequences of food insecurity.

41. Which resource is nonrenewable?

- a. groundwater
- b. trees in a forest
- c. solar energy
- d. oil
- e. fish populations

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

42. What is an example of a pollution control or prevention technology?

- a. coal-burning power plants
- b. fuel-efficient cars
- c. wastewater release into rivers
- d. agricultural fertilizer runoff
- e. smart phones

ANSWER: b

DIFFICULTY: Bloom's: Apply

Chapter 01 - Environmental Problems - Their Causes - and Sustainability

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

43. On human time scales, nonrenewable resources ____.
- a. may be considered inexhaustible
 - b. can never be recycled
 - c. are replenished by natural processes within hours
 - d. are used without ever becoming depleted
 - e. can be depleted much faster than nature can form them

ANSWER: e

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

44. Sustainable yield is the highest rate at which we can use a(n) ____ indefinitely without reducing its available supply.
- a. renewable resource
 - b. fossil fuel
 - c. solar energy
 - d. mineral resource
 - e. nonrenewable resource

ANSWER: a

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

45. The tragedy of the commons refers to the ____.
- a. overuse of privately held resources
 - b. degradation of shared common resources
 - c. human deaths resulting polluted shared resources such as air or water
 - d. government over-regulation of fresh water use
 - e. use of nonrenewable resources

ANSWER: b

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting The Earth?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.2.3 - Discuss two major ways to deal with the overexploitation of commonly shared renewable resources.

46. In many parts of the world, renewable forests are shrinking and topsoil is eroding. This fact is evidence that ____.
- a. all forms of technology increase environmental impacts
 - b. affluence has no impact on the health of the environment
 - c. point sources of pollution are easy to identify
 - d. the market prices of goods include the harmful environmental costs of producing them

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- e. we are living unsustainably

ANSWER:

e

DIFFICULTY:

Bloom's: Analyze

REFERENCES:

1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES:

ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

47. The term "ecological footprint" can best be described as the ____.

- a. average size of the lot on which a family home is built
- b. number of acres necessary to grow enough food to support a family
- c. geographic area in which a person travels during the course of their average daily activities
- d. amount of land and water needed to supply a population or an area with renewable resources and to absorb and recycle the wastes and pollution produced by such resource use
- e. amount of tillable agricultural land necessary to supply the food requirements of a nation

ANSWER:

d

DIFFICULTY:

Bloom's: Understand

REFERENCES:

1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES:

ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

48. A country's ecological footprint is larger than its biological capacity to replenish its renewable resources and absorb the resulting waste and pollution. What can be said about this country?

- a. It has an ecological deficit.
- b. It must not have any natural capital.
- c. It is a sustainable society.
- d. It is most likely a developing country.
- e. It can be described as preservationist.

ANSWER:

a

DIFFICULTY:

Bloom's: Apply

REFERENCES:

1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES:

ENVS.MLSP.16.10.1 - Describe the causes and consequences of food insecurity.

49. Which activity is an example of environmental degradation?

- a. Using solar power at a rapid rate
- b. Growing crops for food
- c. Cutting trees for wood products faster than the trees can regrow
- d. Harvesting fish at a sustainable rate
- e. Using groundwater at the same rate it is replenished

ANSWER:

c

DIFFICULTY:

Bloom's: Apply

REFERENCES:

1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES:

ENVS.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

50. The IPAT model calculates the environmental impact of human activities based on ____.

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- a. policy, adaptation, and cultural traditions
- b. pollution, adaptation, and trade practices
- c. pollution, agriculture, and technology
- d. population size, agriculture, and trade practices
- e. population size, affluence, and technology

ANSWER: e

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

51. Point sources of pollution ____.

- a. enter ecosystems from dispersed and often hard-to-identify sources
- b. include runoff of fertilizers and pesticides from farmlands and suburban lawns
- c. are easier to identify than nonpoint sources
- d. are more difficult to control than nonpoint sources
- e. are always found in rural areas

ANSWER: c

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.1 - Discuss two sources of pollution.

52. Nonpoint sources of pollution ____.

- a. enter ecosystems from single, identifiable sources
- b. are more difficult and costly to control than point sources
- c. include smokestacks and automobile exhaust pipes
- d. are cheaper and easier to identify than point sources
- e. are always found in rural areas

ANSWER: b

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.1 - Discuss two sources of pollution.

53. What is a major cause of environmental problems?

- a. our dependence on solar energy
- b. upcycling
- c. full-cost pricing
- d. declining population growth in high-income countries
- e. our increasing isolation from nature

ANSWER: e

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

54. ____ efforts focus on greatly reducing or eliminating the production of pollutants.

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- a. Agricultural engineering
- b. Nonpoint pollution
- c. Chemical cycling
- d. Pollution prevention
- e. Economic sanction

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.2.1 - Discuss two sources of pollution.

55. What term refers to the average ecological footprint of an individual in a given country or area?

- a. ecosystem service
- b. natural capital
- c. unsustainable yield
- d. mean of the commons
- e. per capita ecological footprint

ANSWER: e

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.2.4 - Define the terms ecological footprint and ecological deficit.

56. Which of the following contributes most to sustainability?

- a. abundant use of resources
- b. distribution of poverty
- c. rapid population growth
- d. inclusion of environmental and health costs in market prices
- e. natural capital degradation

ANSWER: d

DIFFICULTY: Bloom's: Understand

REFERENCES: Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENVS.MLSP.16 .10.1 - Describe the causes and consequences of food insecurity.

57. What is one environmental benefit of affluence?

- a. Increasing wealth allows for an increased capacity for resource consumption.
- b. Increased wealth provides resources to apply toward the creation of environmentally beneficial technologies.
- c. Increasing affluence often leads to a desire to travel widely and frequently in order to see the world.
- d. Increasing affluence in developed nations leads to increased affluence in less-developed countries.
- e. Increasing affluence results in less consumption in all countries.

ANSWER: b

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENVS.MLSP.16 .10.1 - Describe the causes and consequences of food insecurity.

58. Which factor is a major contributor to the degradation of natural capital associated with the pricing of consumable goods?

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- a. Consumable goods are priced in such a way that they do not reflect the environmental damage caused by their production.
- b. Consumable goods are priced in such a way as to allow even those in poverty in developing nations to acquire them.
- c. Consumable goods are priced in such a way as to offset harmful environmental and health costs.
- d. Consumers are typically aware of the kinds of environmental damage resulting from the production of the item.
- e. Consumers in some local cultures purchase items that are expensive because of the social status it brings.

ANSWER: a

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.10.1 - Describe the causes and consequences of food insecurity.

59. About 900 million people live in extreme poverty, struggling to live on the equivalent of less than ____ a day.

- a. \$1.25
- b. \$5.00
- c. \$7.50
- d. \$10.00
- e. \$25.00

ANSWER: a

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

60. Which worldview proposes that we can and should manage the earth for our own benefit, but that we have an ethical responsibility to be caring and responsible managers of the earth?

- a. planetary management worldview
- b. stewardship worldview
- c. environmental wisdom worldview
- d. earth-centered worldview
- e. life-centered worldview

ANSWER: b

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE ENV5.MLSP.16.1.3.5 - Outline three environmental worldviews of environmental problems
S: and solutions.

61. As of 2014, the world population is about ____.

- a. 3.0 billion people
- b. 5.0 billion people
- c. 7.0 billion people
- d. 9.0 million people
- e. 10.0 billion people

ANSWER: c

DIFFICULTY: Bloom's: Remember

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REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.3.2 - Discuss how affluence has harmful and beneficial environmental effects.

62. Between 1930 and 2011, the global human population has increased from ____ to ____.

- a. 100 million; 250 million
- b. 500 million; 1 billion
- c. 1.5 billion; 3 billion
- d. 2 billion; 7 billion
- e. 7 billion; 16 billion

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE ENV.S.MLSP.16.1.3.1 - Discuss how the growth rate of the human population is causing environmental problems.

63. Which school of thought argued that public lands should be managed wisely and scientifically, primarily to provide resources for people?

- a. preservationist school
- b. earth-centered school
- c. traditional school
- d. conservationist school
- e. commons school

ANSWER: d

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE ENV.S.MLSP.16.1.3.5 - Outline three environmental worldviews of environmental problems and solutions.

64. Living sustainably means living on ____ — the renewable resources such as plants, animals, soil, clean air, and clean water, provided by the earth's natural capital.

- a. exponential growth
- b. natural income
- c. biotechnology
- d. upcycling
- e. biodiversity

ANSWER: b

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.4 What Is an Environmentally Stable Society?

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.4 - Specify the means of achieving an environmentally sustainable society.

65. Research by social scientists suggests that it takes only ____ of the population of a community, a country, or the world to bring about major social and environmental change.

- a. 1%
- b. 5-10%

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- c. about one-third
- d. about half
- e. 85%

ANSWER: b

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.4 What Is an Environmentally Stable Society?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.4 - Specify the means of achieving an environmentally sustainable society.

Completion

66. A resource such as solar energy that cannot be diminished by overuse is called a(n) _____.

ANSWER: inexhaustible resource

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

67. The three scientific principles of sustainability are chemical cycling, dependence on solar energy, and _____.

ANSWER: biodiversity
biologic diversity

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

68. A(n) _____ is a set of organisms within a defined area of land or volume of water that interact with one another and with their environment of nonliving matter and energy.

ANSWER: ecosystem

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.1 - Define environment, ecology, and ecosystem.

69. _____ is the biological science that studies how living things interact with one another and with their environment.

ANSWER: Ecology

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.1 - Define environment, ecology, and ecosystem.

70. _____ are materials and energy in nature that are essential or useful to humans.

ANSWER: Natural resources

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

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71. _____ are processes provided by healthy ecosystems that support life and human economies at no monetary cost to us.

ANSWER: Ecosystem services

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

72. _____ are chemicals necessary for the life processes of plants and animals.

ANSWER: Nutrients

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

73. The circulation of chemicals necessary for the life from the environment (mostly from soil and water) through organisms and back to the environment is called _____.

ANSWER: chemical cycling
nutrient cycling

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

74. _____ is the natural resources and ecosystem services that keep us and other species alive and support human economies.

ANSWER: Natural capital

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

75. _____ is the contamination of the environment by a chemical or other agent such as noise or heat to a level that is harmful to the health, survival, or activities of humans or other organisms..

ANSWER: Pollution

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.1 - Discuss two sources of pollution.

76. Win-___ solutions are based on compromise in light of our interdependence, and they benefit both people and the environment.

ANSWER: win

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

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planet.

77. A single, identifiable source of pollution is called a(n) _____.

ANSWER: point source

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

78. _____ resources exist in a fixed quantity, or stock, in the earth's crust.

ANSWER: Nonrenewable
Exhaustible

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES ENV5.MLSP.16.1.1.3 - Differentiate among inexhaustible, renewable, and nonrenewable resources.

79. The average ecological footprint of an individual in a given country or area is the _____ ecological footprint.

ANSWER: per capita

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.4 - Define the terms ecological footprint and ecological deficit.

80. Major causes of the environmental problems we face are _____, wasteful and unsustainable resource use, poverty, failure to include the harmful environmental and health costs of goods and services in their market prices, and increasing isolation from nature.

ANSWER: population growth
population
increased population

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

81. Natural capital is comprised of natural resources and _____.

ANSWER: ecosystem services

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1.2 - Specify the four key components of sustainability.

82. Your _____ is your set of assumptions and values reflecting how you think the world works and what you think your role in the world should be.

ANSWER: environmental worldview

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE ENV5.MLSP.16.1.3.5 - Outline three environmental worldviews of environmental problems and solutions.

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83. Pesticides blown from agricultural lands into the air is an example of _____ pollution.

ANSWER: nonpoint source
non-point source

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.1 - Discuss two sources of pollution.

84. The _____ school, led by naturalist John Muir, wanted wilderness areas on some public lands to be left untouched.

ANSWER: preservationist

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3 - Specify the four major causes of environmental problems.

85. _____ is the study of varying beliefs about what is right and wrong with how we treat the environment.

ANSWER: Environmental ethics

DIFFICULTY: Bloom's: Remember

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVE S: ENV5.MLSP.16.1.3.5 - Outline three environmental worldviews of environmental problems and solutions.

Subjective Short Answer

86. Why is chemical cycling necessary for life on the earth?

ANSWER: The earth receives a continuous supply of energy from the sun, but it receives no new supplies of life-supporting chemicals. Organisms must continually recycle the chemicals they need in order to survive.

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.1 - Summarize the three key principles of sustainability of life on this planet.

87. What does it mean to live off the earth's natural income?

ANSWER: Living off the earth's natural income requires sustainable reliance on renewable resources, such that the earth's natural capital is not depleted.

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.4 What Is an Environmentally Stable Society?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.4.1 - Create an analogy between the use of financial capital and the earth's natural capital.

TABLE 1.1 Environmental Impact of Selected High-, Middle-, and Low-Income Countries

Country	Population Size	Population Growth Rate	Resource Use Per Person	Use of Harmful Technology	Use of Beneficial Technology	Overall Environmental Impact
High-Income Countries						
United States	317 million	Moderate (0.5%)	Very high	Moderate	High	High
Japan	128 million	Negative (−0.2%)	High	Moderate	High	Moderate
Germany	82 million	Negative (−0.2%)	High	Moderate	High	Moderate
Middle-Income Countries						
China	1.35 billion	Moderate (0.5%)	Low	High	Moderate	High
India	1.26 billion	High (1.5%)	Low	High	Low	High
Brazil	194 million	Moderate (1%)	Low	High	Moderate	Moderate
Low-Income Countries						
Nigeria	402 million	High (2.6%)	Very low	High	Low	Moderate
Bangladesh	228 million	High (1.6%)	Very low	High	Low	Moderate
Congo	194 million	High (2.8%)	Very low	High	Low	Moderate

Compiled by the authors using data from Population Reference Bureau, Global Footprint Network, Worldwide Fund for Nature, and Earth Policy Institute.

Table 1.1

Use the accompanying figure to answer the following questions.

88. How does resource use per person in the United States compare to China?

ANSWER: Resource use per person is very high in the United States but low in China.

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

PREFACE NAME: Table 1.1

LEARNING OBJECTIVES: ENV.S.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

89. How does the overall environmental impact of the United States compare to China?

ANSWER: The overall environmental impact for both countries is similarly high.

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DIFFICULTY: Bloom's: Apply

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

PREFACE NAME: Table 1.1

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

90. What accounts for the overall environmental impact of the United States relative to China?

ANSWER: The population of the United States is much smaller, but resource use per person is much higher.

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

PREFACE NAME: Table 1.1

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

91. What accounts for the difference between the overall environmental impacts of the United States and Japan?

ANSWER: Resource use per person is lower in Japan (as well as population).

DIFFICULTY: Bloom's: Apply

REFERENCES: 1.2 How Are Our Ecological Footprints Affecting the Earth?

PREFACE NAME: Table 1.1

LEARNING OBJECTIVES: ENV5.MLSP.16.1.2.5 - Given the population size, affluence, and technology, determine the environmental impact of human activities by using the IPAT model.

Essay

92. Clearly describe how affluence can have both harmful and beneficial environmental effects.

ANSWER: The typical lifestyles of the citizens of developed nations are built on high levels of consumption and unsustainable use of natural resources. This type of affluence has an enormously harmful environmental impact.

On the other hand, affluence can lead people to become more educated, environmentally aware, and concerned. It also provides money for the development of improved technologies that can help to reduce pollution, resource waste, and environmental degradation.

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3.2 - Discuss how affluence has harmful and beneficial environmental effects.

93. Explain how poverty drives population growth.

ANSWER: To many poor people, having more children is a matter of survival. Children are effectively the labor force for a poor family, helping with crop tending, gathering wood or fuel, hauling water and livestock tending. Children also help to care for their aging parents, most of whom do not have social security, health care, and retirement funds. This daily struggle for survival is largely why populations in some of the poorest countries continue to grow at high rates.

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENV5.MLSP.16.1.3.3 - Discuss how poverty causes harmful environmental and health problems.

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94. What is the difference between a renewable resource and an inexhaustible resource?

ANSWER: A renewable resource can be replenished by natural processes within hours to centuries, as long as we do not use it up faster than natural processes can renew it. An inexhaustible resource, like solar energy, is in continuous supply.

DIFFICULTY: Bloom's: Understand

REFERENCES: 1.1 What Are Some Principles of Sustainability?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.1.3` - Differentiate among inexhaustible, renewable, and nonrenewable resources.

95. Explain how the IPAT model and the ecological footprint model emphasize different aspects of how natural resources are affected by unsustainable use.

ANSWER: The IPAT model includes the per capita use of both renewable and nonrenewable resources, while the ecological footprint model emphasizes the use of renewable resources.

DIFFICULTY: Bloom's: Analyze

REFERENCES: 1.3 Why Do We Have Environmental Problems?

LEARNING OBJECTIVES: ENVS.MLSP.16.1.3 - Specify the four major causes of environmental problems.