

FOCUS QUESTIONS

A.P. ENVIRONMENTAL SCIENCE

NAME \_\_\_\_\_

DATE \_\_\_\_\_

CHAPTER 1

1. What is sustainability?
2. How rapidly is the human population growing?
3. Why do famines occur in Africa?
4. What is the carrying capacity of an environment?
5. What is the carrying capacity of the Earth for humans?
6. Are there any indications that we are approaching the carrying capacity for humans?
7. What is the Gaia Hypothesis?
8. What is urbanization?
9. What has been happening to coral reefs and mangroves?
10. What do we mean by "values" and "science" when discussing the environment?
11. What is a utilitarian justification for protecting the environment?
12. What is an ecological justification for protecting the environment?
13. What is an aesthetic justification for protecting the environment?
14. What is a moral justification for protecting the environment?

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CHAPTER 2

1. What is science?
2. What is a conceptual or mathematical model?
3. What is the difference between science and technology?
4. What isn't science?
5. Is environmental science a true science or pseudoscience?
6. What is meant by disprovability?
7. What is the scientific method?
8. What kind of reasoning is used in everyday life?
9. What are the assumptions that all scientists make?
10. What is scientific "proof" and how does it differ from "proof" in mathematics and in everyday life?
11. What is a hypothesis?
12. What is a theory?
13. What is an experiment?
14. What is the difference between inductive and deductive reasoning?
15. Are scientific measurements made without error?
16. What is the difference between accuracy and precision?
17. What is an experimental error?
18. What is the difference between an independent and a dependent variable?
19. What is meant by an operational definition of a variable?
20. What is probability?
21. What is a computer model?

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Frequently Asked Questions Chapter 3 The Big Picture: Systems of change

1. What is a system?
2. What is a positive feedback loop?
3. What is a negative feedback loop?
4. What is an ecosystem?
5. What is exponential growth?
6. What is lag time?
7. What is doubling time?
8. What is the concept of environmental unity?
9. What is Uniformitarianism?
10. What is steady state?
11. What is average residence time (ART)? Give one example.
12. What is the "balance of nature"?
13. Is the equilibrium concept an appropriate one for ecosystems?
14. What is an ecological disturbance?
15. Don't natural disturbances prevent steady state conditions from ever being reached?
16. How old is life on Earth and when did life begin?
17. What are extinction rates and how have they changed with human population growth?
18. What does biota mean? (give example)
19. What is the Biosphere?
20. What is the Gaia hypothesis?

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**Frequently Asked Questions chapter 4 The Human population and the environment**

1. What is a population?
2. What are the five key properties of a population? (Describe each)
3. How is population growth measured? Give formula and tell what letters represent)
4. What is the age structure of a population? (List and describe the four types of age structures)
5. What is Zero Population Growth?
6. What is exponential growth?
7. Who was Thomas Malthus?
8. Was Malthus right about the limits to human population growth?
9. How rapidly is the human population growing?
10. What is doubling time? (give formula)
11. What is the doubling time for the world's human population?( Show work)
12. What is the logistic growth curve?
13. Can we apply the logistic curve to human populations?
14. What is the demographic transition?
15. What is the impact of technology and population on the environment?
16. What is the upper limit (carrying capacity) of the world's human population?
17. What are some of the most rapidly growing countries?
18. What countries have low population growth rates?
19. What are the potential effects of medical advances on the human population?
20. How does acute (infectious) and chronic disease affect death rates in a population?
21. Will AIDS stop population growth?
22. What are the limiting factors for the human population?
23. What is the Total Fertility Rate (TFR) and how does it differ from the Replacement Fertility Rate?
24. How can we stop human population growth? (Give four example and discuss)