

Environmental Resources Final Study Guide

Chapter 11, Water, p. 288

1. Define the water cycle:
2. Define surface water:
3. Remember salt water contributes to more than 97% of all the water on earth, and that fresh water is such a limited resource. Knowing that, where does most of Earth's surface water come from?
4. Define ground water:
5. What is the relationship between groundwater and surface water?
6. How is most of the freshwater used worldwide?
7. Where does most of the water used for irrigation come from? Circle your choice from those listed in the parentheses. (Desalinated water, salty sources, rivers & groundwater, or all three)

The number of people who rely on freshwater reserve is increasing every day. In fact, a shortage of clean, fresh water reserves is increasing everyday.

8. In places where freshwater are in limited demand, humans have used dams and water diversion canals to fulfill the need. The concept of bringing in water to areas where water was not available and making the area livable is called?
9. As water becomes more depleted, water becomes more expensive. Taking shorter showers and installing a low-flow shower head in your shower are all examples of what?
10. Why is water conservation a good approach to deal with water shortages?
11. Define water pollution:
12. There are 2 types of water pollution. What are they?
13. Define and give 3 examples of point source pollution:

Scott
Environmental Science

14. Define & give 3 examples of and nonpoint source pollution:

15. Pollutants usually enter groundwater when polluted surface water percolates down from the earth's surface. Why is polluted ground water so difficult to clean up?

16. Ocean pollutants are often dumped directly into the ocean. Where do most of the pollutants from the ocean come from?

Chapter 12, Air, p. 324

17. Define air pollution:

18. The pH scale measures how basic or how acidic a substance is. Pure water has a pH of 7.0, what does acid rain have a pH of?

Chapter 13, Atmosphere and Climate Change, p. 350

19. Climate is the long-term prevailing weather conditions at a particular place based upon records taken. Climate is determined by a variety of factors. Weather, climate, and seasons are all effected by the sun's rays. Another term that has to deal with the sun's rays is called the _____ layer.

20. How does the ozone layer shield the earth from much of the sun's harmful radiation?

21. Which of the following is a fact about the thinning of the ozone layer? Circle your choice from those listed in the parentheses. (occurs over both polar regions, is related to seasonal changes, will take many years to reverse, or all three)

22. Remember the Earth is similar to a greenhouse. The Earth's atmosphere acts like the glass in a greenhouse, sunlight streams through the atmosphere and heats the Earth. What is the greenhouse effect?

23. What gas is most responsible for the greenhouse effect? Circle your choice from those listed in the parentheses. (nitrous oxide, methane, oxygen, or water vapor)

Because the temperature is rising at a similar rate to the increase in greenhouse gases in the atmosphere, many scientists have hypothesized that the increase in greenhouse gases has caused the increase in temperature. This is where the term global warming was introduced.

24. Define Global warming:

25. What are some of the consequences of global warming?

Scott
Environmental Science

26. What is the critical difference between today's global warming and Earth's previous climate changes?

Chapter 14, Land, p. 380

27. Define infrastructure:

We use land for many uses, including farming, mining, recreation, and building cities and highways. The primary land use categories are rangeland, forestland, cropland, parks and preserves, urban lands, and wetlands, mountains and deserts.

28. Where do most Americans live?

29. Define rangeland. What can be done to sustain the productivity of rangeland?

30. Define a rural area. Why should rural areas be preserved?

31. What is urban sprawl? What has happened as a result of it?

As populations grow, the resources of more rural lands are needed to support the population. The main categories of rural land are: farmland, national and state parks, and wilderness.

32. What is the difference between deforestation and reforestation?

33. Define ecosystem service & give 3 examples:

34. Given that most people live in urban areas, why should rural areas be preserved? Circle your choice from those listed in the parentheses. (they provide crucial infrastructure, they provide ecological services, they contain pesticides)

Chapter 15, Food and Agriculture, p. 406

Famine is widespread starvation caused by a shortage in food. Famine happens all over the world. It is predicted that in 2050, the world's farmers will need to feed about 9 billion people. That is 50 % more than they feed today.

35. Why is feeding the world such a major problem, why are so many people in the world today going hungry?

36. Much of the earth's surface cannot be farmed. Only about 10% of the Earth's surface is arable land. This is why soil erosion is one of the most serious environmental problems. Define soil erosion:

Scott
Environmental Science

37. What contributes to soil erosion? Circle your choice from those listed in the parentheses. (using composts as fertilizer, allowing land to lie fallow, driving farm machinery over fields, or all three)

38. Land degradation happens when human activity or natural processes damage the land so that it can no longer support the local ecosystem. How is Earth's usable cropland being reduced? Circle your choice from those listed in the parentheses. (fast-growing human populations, soil erosion, desertification, or all three)

39. Fish and other aquatic organisms provide up to 20% of the animal protein consumed worldwide. But over harvesting is reducing the amount of fish and other organisms in the world's ocean. What is aquaculture?

40. Define farmland and explain how farmland can be desertified:

41. What are the impacts of overharvesting? Circle your choice from those listed in the parentheses. (soil erosion, collapse of food chains, economic collapse, or all three)

Chapter 16, Mining & Mineral Resources, p. 440

42. Define ore mineral:

43. Define gangue mineral:

44. Define subsurface mining:

45. Define surface mining:

46. What type of pollution can surface mining cause? Circle your choice from those listed in the parentheses. (only air pollution, only noise pollution, both air & noise pollution, neither air nor noise pollution)

47. List & describe 3 methods of subsurface mining.

48. Describe quarrying & determine whether it is a subsurface or surface mining technique.

49. Define reclamation:

Chapter 17, Nonrenewable Energy, p. 466

50. List 3 reasons why fewer nuclear power plants are being built today compared to 40 years ago.
51. Which fuel contains the most solar energy, energy from the sun? Circle your choice from those listed in the parentheses. (uranium, radioactive waste, fossil fuels, or all nonrenewable resources)
52. Coal, the most abundant fossil fuel, is mainly used to power plants that generate what?
53. When coal is burned, what is released into the air that is considered a major source of pollution?
54. Which factor is **NOT** used to decide whether or not a fuel is suitable for wide spread use? Circle your choice from those listed in the parentheses. (energy content, cost, availability, magnetic properties)
55. List at least 3 advantages of using nuclear energy.

Chapter 18, Renewable Energy, p. 490

56. Define geothermal energy:
57. Can geothermal power plants be built anywhere? If not, what geological formation must be present?
58. Define renewable energy:
59. List 5 advantages of using hydrogen as a future fuel source.
60. Define cogeneration:
61. Explain how cogeneration can be implemented in an industrial furnace to produce electricity.
62. Energy from the sun warms Earth's surface unevenly creating wind. Wind power is one of the most promising renewable energy source. What is the main disadvantage of wind energy?
63. What is the most energy efficient vehicle that is accessible to the average consumer?
64. Describe how a hybrid vehicle works.

Scott
Environmental Science

65. Define energy efficiency:

Chapter 19, Waste, p. 516

66. Analyze Figure 5 on page 520 & determine what makes up the largest percent of municipal solid waste.

67. Under the Superfund Act, who can the Environmental Protection Agency sue & for what reason?

68. Define compost:

69. Look at Table 2 on page 526 & list 3 benefits of composting:

70. Define source reduction & give at least 3 examples:

71. Define biodegradable & give at least 5 examples:

72. The two main problems with landfills described in your textbook are leachate & methane. What are they and how can these issues be safely resolved?