**APES Study Guide**

**Unit 11: ENVIRONMENTAL HAZARDS, WASTE and HUMAN HEALTH**

 *In this unit we will examine environmental hazards and waste production. Examining how they impact the environment and human health.*

**Textbook Reference:**

Chapter 17 – Environmenatl Hazards and Human Health

Chapter 21 – Solid and Hazardous Waste

**Vocabulary:**

*Directions: Review key vocabulary, words may appear in quizzes and/or tests. You are not required to write the definitions but are encouraged to review them online*

Chapter 17

carcinogens

dose

dose response curve

emergent disease

infectious disease

mutagens

nontransmissible disease

pathogen

response

risk

risk analysis

risk assessment

risk management

teratogens

toxic chemical

toxicity

toxicology

transmissible disease

Chapter 21

Biomimicry

environmental justice

hazardous (toxic) waste

industrial solid waste

integrated waste management

municipal solid waste

open dump

primary recycling

recycle

reduce

reuse

sanitary landfills

secondary recycling

solid waste

waste management

waste reduction

**Study Guide Questions (SGQ):**

*Directions:**Answer in complete sentences in your composition books. (must be handwritten)*

Chapter 17

1. Describe the potential risks from exposure to trace amounts of hormone mimics such as bisphenol.
2. Give an example of a risk from each of the following: biological hazards, chemical hazards, physical hazards, cultural hazards, and lifestyle choices.
3. In terms of death rates, what are the world’s four most serious infectious diseases?
4. Describe the causes and possible solutions for the increasing genetic resistance to commonly used antibiotics.
5. Describe the global threat from tuberculosis (TB).
6. Describe the threat from flu.
7. Describe the health threats from the global HIV/AIDS pandemic and list six ways to reduce this threat.
8. Describe the threats from the hepatitis B virus.
9. Describe the threat from malaria for 40% of the world’s people and how we can reduce this threat.
10. List five major ways to reduce the global threat from infectious diseases.
11. Discuss the threat from PCBs.
12. Describe the human immune, nervous, and endocrine systems and give an example of a chemical that can threaten each of these systems.
13. Describe the toxic effects of the various forms of mercury and ways to reduce these threats.
14. What are hormonally active agents, what risks do they pose, and how can we reduce these risks?
15. Describe how the toxicity of a substance can be estimated by testing laboratory animals, and discuss the limitations of this approach.
16. Why do we know so little about the harmful effects of chemicals?
17. Discuss the use of the precautionary principle and pollution prevention in dealing with health threats from chemicals.
18. In terms of premature deaths, what are the three greatest threats that humans face?
19. Describe the health threats from smoking and what we can do to reduce these threats.
20. How can we reduce the threats from the use of various technologies?

Chapter 19

1. Distinguish among solid waste, industrial solid waste, municipal solid waste (MSW), and hazardous (toxic) waste and give an example of each.
2. Give two reasons for sharply reducing the amount of solid and hazardous waste we produce.
3. Describe the production of solid waste in the United States and what happens to it.
4. What is garbology and how might it help us to deal with MSW?
5. Distinguish among reducing, reusing, and recycling in dealing with the waste we produce.
6. Describe six ways in which industries and communities can reduce resource use, waste, and pollution.
7. Distinguish between primary (closed- loop) and secondary recycling, and give an example of each.
8. What is a materials-recovery facility?
9. What is composting?
10. Describe the recycling of paper and the problems involved.
11. Describe the recycling of plastics and the problems involved.
12. Describe progress being made in the recycling of plastics.
13. What are the major advantages and disadvantages of recycling?
14. What are the major advantages and disadvantages of using incinerators to burn solid and hazardous waste?
15. Distinguish between open dumps and sanitary landfills.
16. What are the major advantages and disadvantages of burying solid waste in sanitary landfills?
17. Discuss the problems involved in sending e-wastes to some less-developed countries for recycling.
18. What are some ways to do responsible e-waste recycling?
19. Describe three ways to detoxify hazardous waste.
20. What is bioremediation? What is phytoremediation?
21. What are the major advantages and disadvantages of incinerating hazardous wastes?
22. What are the major advantages and disadvantages of disposing of liquid hazardous wastes in (a) deep under-ground wells and (b) surface impoundments?
23. What is a secure hazardous waste landfill?
24. Describe the regulation of hazardous waste in the United States under the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability (or Superfund) Act.
25. What is a brownfield?
26. What is environmental justice and how well has it been applied in locating and cleaning up hazardous waste sites in the United States?
27. Describe regulation of hazardous wastes at the global level through the Basel Convention and the treaty to control persistent organic pollutants (POPs).