

Unit 6 Exam Preview/ Review Sheet

Geologic Process, Risk, Soil and Haz Waste

- SOLID, TOXIC, AND HAZARDOUS WASTE
- ENVIRONMENTAL HEALTH AND TOXICOLOGY

- Read Chapters 9, 10, 20 and 21. Complete Questions for Review and Questions for Critical Thinking for each chapter.
- Review STF

Key terms:

- Municipal solid waste
- Waste stream
- Tipping fee
- Industrial waste
- Hazardous waste
 - E-waste
 - Heavy metals
 - Deep-well injection
 - Surface impound
 - Radioactive waste
- RCRA= Resource Conservation and Recovery Act
- CERCLA= Comprehensive Environmental Response Compensation and Liability Act
 - Superfund Act
 - Brownfield
 - EPA (Environmental Protection Agency)
 - Love Canal
- Sanitary landfill
- Leachate
- Incineration
 - Ash (bottom and fly ash)
- Recycling
 - Closed loop versus open-loop
- Reduce/reuse (source reduction)
- Composting
- Source reduction
- Eco-Industrial park
- Integrated waste management
- Life-cycle analysis
- Bioremediation

QUESTIONS:

1. *Municipal vs Industrial waste?*
2. What is considered *hazardous* waste?
3. How can we reduce the amount of waste produced?
4. What is a *sanitary landfill* and how does it work?
5. What is *leachate*?
6. What is waste *incineration*? What are the pros and cons?
7. How do we dispose of hazardous waste? eWaste? Nuclear waste? (*high level/low level*)?
8. What is bioremediation? What are some examples
9. *What is an eco-industrial park? How does it reduce: waste? energy use? emissions?*
10. What is the difference between open-loop recycling (or “down-cycling”) and closed loop recycling? What are some examples of these?
11. How does *composting* work?
12. How does paper *recycling* work?
13. What is the difference between pre-consumer and post-consumer recycled products?
14. What do the numbers mean on the bottom of plastic containers?
15. What are some examples of things made of plastic 1, 2, 3, 4?
16. Where does plastic come from?
17. *CERCLA? Superfund* sites? Brownfields?
18. What are examples of heavy metals? Why are they concerning in waste?
19. What happened at Love Canal in NY?
20. What are the layers of soil? Arrange soil particles by size.
21. What are the different types of erosion and what techniques can be used to reduce it?

Soil

layers in soil

- surface litter layer or O horizon

- topsoil layer or A horizon
- subsoil or B horizon
- E horizon (zone of leaching)
- parent rock or parent material or bedrock

Environmental Health and Toxicology

- Asbestos
- DDT
- Hazard
- Disease
 - Infectious
 - Chronic
 - Acute
- Pathogen
- Epidemiology
- Emergent Infectious disease
- Toxicology
- Toxicity
- Sensitivity
- Genetics
- Dose
- Dose-response curve/relationship (LD50 test)
- Risk
- Risk assessment
- WHO (World Health Organization)
- Vectors
- Antibiotic resistance
- CDC (Center for Disease Control)
- Pandemic/Epidemic
- Carcinogen
- Teratogen
- Neurotoxin
- Allergen
- Endocrine Disruptor
- Heavy metals (mercury, Lead, cadmium, arsenic)
- Synergistic interactions
- Dose-response curve
- LD50/ ED50
- Sublethal effect
- Retrospective Study
- Prospective study
- Route of exposure
- Solubility
- Persistence

- Precautionary Principal
- Stockholm Convention
- POPs (Persistent Organic Pollutants)
- PCBs
- Bioaccumulation
- Biomagnification
- Natural disasters

QUESTIONS:

1. What is the difference between biological, chemical social and physical hazards?
What are some examples.
2. How do we determine the toxicity of something?
3. Can you read a Dose-response curve (LD50 graph)?
4. How do we determine how risky chemical hazards are?
5. What do they mean by sub-lethal effects?
6. What are some examples of infectious diseases? How do they spread? (Malaria, Mad-Cow, AIDS/HIV, Plague, TB, Ebola, Bird Flu, Swine Flu, West Nile, SARS, Zika)
7. How can globalization and global warming increase the spread of disease?
8. What are some examples of chemical hazards that are neurotoxins?- where are they found/How are people exposed?
9. What are some examples of chemical hazards that are teratogens? ?- where are they found/How are people exposed (routes of exposure) ?
10. What are some examples of chemical hazards that are carcinogens? ?- where are they found/How are people exposed?
11. What are the different types of natural disasters – compare and contrast (earthquake, landslide, tsunami, volcano, tornado, hurricane, thunderstorm, avalanche).
12. How does biomagnification occur? What is an example?
13. What is the difference between bioaccumulation and biomagnification?