

APES Unit 8 Exam: Common Study Guide

Toxicology and Waste Management

You should know the following topics thoroughly. Be able to describe, explain, and/or give examples. You MAY NOT use a calculator on the exam.

Chapter 14: Environmental Health and Toxicology

- Types of Hazards: Physical, Chemical, Biological, Cultural
- Spread of Infectious Disease by vectors (ticks, mosquitoes)
- Indoor Health Hazards: Radon, Lead, Asbestos
- Endocrine Disruptors – as they apply to frogs and alligators (see Case Study Page 382-383)
- Biomagnification and Bioaccumulation
- Effects of DDT on ecosystems
- Dose-Response Analysis – Dose-Response curve, LD₅₀ values, Threshold Values, Synergistic Effects
- Risk Assessment - Why our perception of risk does not match reality (in control vs. non in control)

Chapter 22: Waste Management

- Types of Waste: Municipal Solid Waste, Industrial Waste, Hazardous Waste
- Integrated Waste Management
- What type of municipal solid waste makes up the largest percentage?
- How is most municipal solid waste disposed of in the U.S.?
- Construction of a Sanitary Landfill
- Drawbacks of Sanitary Landfills
- Incineration – process, negatives
- Waste-to-Energy Process and examples
- Source Reduction and Recycling
- Composting
- Closed-Loop Recycling, Benefits of Recycling Aluminum Cans
- Financial Incentives to Address Waste
- What makes a hazardous waste? (four characteristics)
- E-Waste – contain heavy metals, should be considered hazardous
- RCRA – what is it?
- Basal Convention
- Phytoremediation – description, positives, negatives
- Disposal for Hazardous Waste – Specially constructed landfills, Surface Impoundments, Deep-well Injection
- Disposal locations for radioactive waste
- CERCLA (Superfund) – What is it?
- Brownfields – what are they? Examples? What is the Brownfield Program?