Focus Questions and Vocabulary
Chapters 17-22

Chapter 17

- What are the major types of hazards that humans face? (17-1)
- What is tuberculosis? Why is it so difficult to deal with especially in recent years? (17-2)
- How is malaria transmitted and how can we combat its impact? (17-2)
- What are PCBs? What problems do they cause? Why are they still a problem? (17-3)
- How does mercury get into our system? What effects does it have? How can we solve the problem of mercury contamination? (17-3)
- What is Bisphenol-A? Where is it found? What problems does it cause? (17-3)
- How does a toxicologist determine the danger a chemical poses? (17-4)
- What is the precautionary principle and should this be the standard for dealing with potentially harmful chemicals? (17-4)
- How are we able to determine the risk various activities pose? (17-5)

Chapter 17

biological magnification (p. 455)
carcinogens (p. 448)
dose (p. 454)
dose response curve (p. 455)
epidemiological studies (p. 457)
infectious disease (p. 440)
mutagens (p. 448)
neurotoxins (p. 449)
nontransmissible disease (p. 440)
pathogen (p. 440)
persistent organic pollutants (p. 459)
precautionary principle (p. 459)
response (p. 455)
risk (p. 439)
risk analysis(p. 460)
risk assessment (p. 439)
risk management (p. 439)
solubility (p. 454)
teratogens (p. 448)
toxic chemical (p. 448)
toxicity (p. 453)
toxicology (p. 453)
transmissible disease (p. 440)

Chapter 18

- What is the Asian Brown Cloud? What specifically causes it? (18-1)
- How has air pollution been a problem in the past? (18-2)
- How are secondary pollutants formed? What are some examples? (18-2)
- List the major outdoor air pollutants and provide a brief explanation of each. (18-2)
- How does lead harm those exposed to it? What ways have people been exposed to it? What responses have been taken to this danger? (18-2)
- What is smog? What can cause it to be more severe? (18-2)
- What causes acid deposition? What effects can it have on an environment? How can we reduce it? (18-3)
- What are some examples of sources of indoor air pollution? (18-4)
- How does your body attempt to defend itself against air pollution? (18-5)
- What laws and regulations attempt to reduce air pollution? (18-6)
- What are some ways US laws could be improved with regard to air pollution? (18-6)
- What are ways an average citizen can improve both outdoor and indoor air pollution? (18-6)

Chapter 18

acid deposition (p. 479)
air pollution (p. 470)
atmosphere (p. 469)
atmospheric pressure (p. 469)
carbon oxides (p. 472)
density (p. 469)
industrial smog (p. 476)
nitrogen oxides (p.473
nitric acid (p.473)
ozone (p. 474)
ozone layer (p. 470)
particulates (p. 472)
photochemical smog (p. 476)
primary pollutants (p. 471)
secondary pollutants (p. 471)
stratosphere (p. 470)
sulfur dioxide (p. 473)
sulfuric acid (p. 473)
temperature inversion (p. 478)
troposphere (p.469)
volatile organic compounds (VOCs) (p. 474)

Chapter 19

- Briefly describe the change in temperature over the past 1000 years. (19-1)
- How do scientists determine climate patterns tens or hundreds of thousands of years ago? (19-1)
- What are the main greenhouse gasses? What countries emit the most? (19-1)
- What is the 2007 IPCC report? What evidence did it have for its conclusions? (19-1)
- What are some of the worst case scenarios about climate change? (19-2)
- Why should we care if arctic sea ice and snow are melting? (19-2)
- What are some consequences rising sea level bring? (19-2)
- What are the consequences of melting permafrost? (19-2)
- How is climate change a threat to biodiversity? (19-2)
- What are some examples of ways we can reduce the threat of climate change? (19-3)
- Briefly explain the process of carbon capture and storage. Where can it be done? What are the problems with this method of carbon removal? (19-3)
- Briefly explain the Kyoto Protocol. (19-3)
- How are local and state governments dealing with climate change? (19-3)
- Explain the process that results in ozone depletion? What compound is responsible for this? (19-4)

Chapter 19

cap-and-trade (p. 519)
carbon capturing and storage (CCS) (p.516)
carbon neutral (p. 520)
clean coal technology (p. 517)
climate (p. 505)
global warming (p. 487)
Kyoto protocol (p. 519)
ozone thinning (p. 523)
tipping point (p. 499)

Chapter 20

- Explain the difference between point and nonpoint sources of pollution and provide examples of each. (20-1)
- Explain how oxygen demand is impacted by point source pollution. (20-2)
- Explain the unique situation related to Ganges River pollution. (20-2)
- Explain the process of cultural eutrophication. (20-2)
- What specific environmental problems do the Great Lakes experience. (20-2)
- What are some sources of groundwater pollution? (20-3)
- How is drinking water purified? What laws govern this? (20-3)
- What are some factors that contribute to ocean pollution? (20-4)
- What causes oxygen depletion in the northern Gulf of Mexico? (20-4)
- Explain the history of the Clean Water Act. (20-5)
- How does a septic tank work? (20-5)
- Briefly summarize primary and secondary sewage treatment. What ways can this process be improved? (20-5)

Chapter 20

Clean Water Act (p.522)
cultural eutrophication (p. 539)
degradable wastes (p. 542)
eutrophication (p. 539)
nondegradable wastes (p. 543)
nonpoint sources (p. 532)
point sources (p. 532)
primary sewage treatment (p. 554)
secondary sewage treatment (p. 554)
septic tank (p. 553)
water pollution (p. 532)

Chapter 21

- What are the different categories we separate waste into and how do they differ? From what sources does waste in the US originate? (21-1)
- How has New York City dealt with its waste issues? (21-1)
- How are the components of integrated waste management prioritized? (21-2)
- What are the different types of recycling and how do they differ? (21-3)
- How are paper and plastics recycled? (21-3)
- What are the disadvantages of recycling? (21-3)
- How is solid waste dealt with in the United States and what the the advantages and disadvantages of each process? (21-4)
- How are hazardous wastes like E-waste processed? (21-5)
- What laws regulated hazardous waste in the United States? (21-5)

Chapter 21

environmental justice (p. 584)
hazardous (toxic) waste (p. 562)
Industrial solid waste (p. 561)
integrated waste management (p. 565)
municipal solid waste (p. 561)
primary (closed-loop) recycling (p. 569)
recycle (p. 566)
reduce (p. 566)
reuse (p. 566)
sanitary landfills (p. 574)
secondary recycling (p. 569)
solid waste (p. 561)

Chapter 22

- How has Curitiba, Brazil exemplified the ecocity concept? (22-1)
- How has urbanization changed in the United States? (22-1)
- What factors contribute to urban sprawl? (22-1)
- What are the advantages and disadvantages of urbanization? (22-2)
- What are the advantages and disadvantages of traditional motor vehicles in urban settings? (22-3)
- What alternatives are there to motor vehicles? What are their advantages and disadvantages? How can cities promote them? (22-3)
- What are some examples of how cites preserve open space? (22-4)
- What are specific ways cities can become more sustainable? (22-5)

Chapter 22

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