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The AP Environmental Science Hit Parade

ENVIRONMENTAL SCIENCE HIT PARADE

These are all environmental science terms you should know cold before exam day, so make flashcards, cut these out, study them in your sleep—do whatever you have to do to commit them to memory before exam day!

CHAPTER 3: EARTH'S INTERDEPENDENT SYSTEMS

abiotic—related to factors or things that are separate and independent from living things; nonliving.

acid—any compound that releases hydrogen ions when dissolved in water. Also, a water solution that contains a surplus of hydrogen ions.

air mass—enormous bodies of air that move as a unit.

A layer—a soil horizon; the layer below the O layer is called the A layer. The A layer is formed of weathered rock, with some organic material; often referred to as topsoil.

alkaline—a basic substance; chemically, a substance that absorbs hydrogen ions or releases hydroxyl ions; in reference to natural water, a measure of the base content of the water.

aquifer—an underground layer of porous rock, sand, or other material that allows the movement of water between layers of nonporous rock or clay. Aquifers are frequently tapped for wells.

arable—land that's fit to be cultivated.

asthenosphere—the part of the mantle that lies just below the lithosphere.

atmosphere—the gaseous mass or envelope surrounding a celestial body—especially the one surrounding the earth which is retained by the celestial body's gravitational field.

barrier island—a long, relatively narrow island running parallel to the mainland, built up by the action of waves and currents and serving to protect the coast from erosion by surf and tidal surges.

biological weathering—any weathering that's caused by the activities of living organisms.

biotic—living or derived from living things.

B layer—a soil horizon; B receives the minerals and organic materials that are leached out of the A horizon.

chemical weathering—the result of chemical interaction with the bedrock that is typical of the action of both water and atmospheric gases.

C layer—a soil horizon; horizon C is made up of larger pieces of rock that have not undergone much weathering.

clay—the finest soil, made up of particles that are less than 0.002 mm in diameter.

conduction—the transmission or conveying of something through a medium or passage, especially the transmission of electric charge or heat through a conducting medium without perceptible motion of the medium itself.

convection—the vertical movement of a mass of matter because of heating and cooling; this can happen in both the atmosphere and Earth's mantle.

convection currents—air currents caused by the vertical movement of air due to atmospheric heating and cooling.

convergent boundary—a plate boundary where two plates are moving toward each other.

coral reef—an erosion-resistant marine ridge or mound consisting chiefly of compacted coral together with algal material and biochemically deposited magnesium and calcium carbonates.

Coriolis effect—The observed effect of the Coriolis force, especially the deflection of an object moving above the earth, rightward in the Northern Hemisphere, and leftward in the Southern Hemisphere.

crop rotation—the practice of alternating the crops grown on a piece of land—for example, corn one year, legumes for two years, and then back to corn.

delta—a usually triangular alluvial deposit at the mouth of a river.

divergent boundary—a plate boundary at which plates are moving away from each other. This causes an upwelling of magma from the mantle to cool and form new crust.

doldrums—a region of the ocean near the equator, characterized by calms, light winds, or squalls.

drip irrigation—a method of supplying irrigation water through tubes that literally drip water onto the soil at the base of each plant.

earthquake—the result of vibrations that release energy. They often occur as two plates slide past one another at a transform boundary.

El Niño—a climate variation that takes place in the tropical Pacific about every three to seven years, for a duration of about one year.

erosion—the process of soil particles being carried away by wind or water. Erosion moves the smaller particles first and hence degrades the soil to a coarser, sandier, stonier texture.

estuary—the part of the wide lower course of a river where its current is met by the tides.

fault—the place where two plates abut each other.

Green Revolution—the development and introduction of new varieties of (mainly) wheat and rice that has increased yields per acre dramatically in countries since the 1960s.

greenhouse effect—the phenomenon whereby the earth's atmosphere traps solar radiation, caused by the presence in the atmosphere of gases such as carbon dioxide, water vapor, and methane that allow incoming sunlight to pass through but absorb heat radiated back from the earth's surface.

Hadley cell—a system of vertical and horizontal air circulation predominating in tropical and subtropical regions and creating major weather patterns.

headwaters—the water from which a river rises; a source.

horizon—a layer of soil.

humus—the dark, crumbly, nutrient-rich material that results from the decomposition of organic material.

hurricane (typhoon, cyclone)—a severe tropical cyclone originating in the equatorial regions of the Atlantic Ocean or Caribbean Sea or eastern regions of the Pacific Ocean, traveling north, northwest, or northeast from its point of origin, and usually involving heavy rains.

inner core—the molten core of the Earth.

insolation—the delivery rate of solar radiation per unit of horizontal surface.

jet stream—a high-speed, meandering wind current, generally moving from a westerly direction at speeds often exceeding 400 km (250 miles) per hour at altitudes of 15 to 25 km (10 to 15 miles).

land degradation—when soil becomes water-logged and then dries out, and salt forms a layer on its surface.

La Niña—a cooling of the ocean surface off the western coast of South America, occurring periodically every 4 to 12 years and affecting Pacific and other weather patterns.

lithosphere—the outer part of the Earth, consisting of the crust and upper mantle, approximately 100 km (62 miles) thick.

loamy—soil composed of a mixture of sand, clay, silt, and organic matter.

mantle—the layer of the earth between the crust and the core.

monoculture—the cultivation of a single crop on a farm or in a region or country; a single, homogeneous culture without diversity or dissension.

monsoon—a wind system that influences large climatic regions and reverses direction seasonally.

O layer—the uppermost horizon of soil. It is primarily made up of organic material, including waste from organisms, the bodies of decomposing organisms, and live organisms.

physical (mechanical) weathering—any process that breaks rock down into smaller pieces without changing the chemistry of the rock; typically wind and water.

plate boundaries—the edges of tectonic plates.

prior appropriation—when water rights are given to those who have historically used the water in a certain area.

rain shadow—the low-rainfall region that exists on the leeward (downwind) side of a mountain range. This rain shadow is the result of the mountain range's causing precipitation on the windward side.

red tide—a bloom of dinoflagellates that causes reddish discoloration of coastal ocean waters. Certain dinoflagellates of the genus *Gonyamllax* produce toxins that kill fish and contaminate shellfish.

R horizon—The bedrock, which lies below all of the other layers of soil, is referred to as the R horizon.

riparian right—the right, as to fishing or to the use of a riverbed, of one who owns riparian land (the land adjacent to a river or stream).

salinization—the process in which soil becomes saltier and saltier until, finally, the salt prevents the growth of plants. Salinization is caused by irrigation, as salts brought in with the water remain in the soil as water evaporates.

sand—the coarsest soil, with particles 0.05–2.0 mm in diameter.

silt—soil with particles 0.002–0.05 mm in diameter.

Southern Oscillation—the atmospheric pressure conditions corresponding to the periodic warming of El Niño and cooling of La Niña.

subduction zone—in tectonic plates, the site at which an oceanic plate is sliding under a continental plate.

thermocline—a layer in a large body of water, such as a lake, that sharply separates regions differing in temperature, so that the temperature gradient across the layer is abrupt.

thermosphere—the outermost shell of the atmosphere, between the mesosphere and outer space, where temperatures increase steadily with altitude.

topsoil—the A layer of soil is often referred to as topsoil and is most important for plant growth.

trade winds—the more or less constant winds blowing in horizontal directions over the earth's surface, as part of Hadley cells.

transform boundary—also known as transform faults, boundaries at which plates are moving past each other, sideways.

tropical storm—a cyclonic storm having winds ranging from approximately 48 to 121 km (30 to 75 miles) per hour.

upwelling—a process in which cold, often nutrient-rich, waters from the ocean depths rise to the surface.

volcanoes—an opening in the earth's crust through which molten lava, ash, and gases are ejected.

watershed—the region draining into a river system or other body of water.

water-scarce—countries that have a renewable annual water supply of less than 1,000 m³ per person.

water-stressed—countries that have a renewable annual water supply of about 1,000–2,000 m³ per person.

weather—the day-to-day variations in temperature, air pressure, wind, humidity, and precipitation mediated by the atmosphere in a given region.

weathering—the gradual breakdown of rock into smaller and smaller particles, caused by natural chemical, physical, and biological factors.

wetlands—a lowland area, such as a marsh or swamp, that is saturated with moisture, especially when regarded as the natural habitat of wildlife.

CHAPTER 4: THE INHABITANTS OF PLANET EARTH AND THEIR RELATIONSHIPS

ammonification—the production of ammonia or ammonium compounds in the decomposition of organic matter, especially through the action of bacteria.

assimilation—the process in which plants absorb ammonium (NH₃), ammonia ions (NH₄⁺), and nitrate ions (NO₃⁻) through their roots.

autotroph—an organism that obtains organic food molecules without eating other organisms or substances derived from other organisms. Autotrophs use energy from the sun or from the oxidation of inorganic substances to make organic molecules from inorganic ones.

bioaccumulation—the accumulation of a substance, such as a toxic chemical, in various tissues of a living organism.

biomagnification—the process by which the concentration of toxic substances increases in each successive link in the food chain.

biosphere—the part of the earth and its atmosphere where living organisms exist or that is capable of supporting life.

carnivore—an animal that only consumes other animals.

chemotroph (chemoautotroph)—an organism, such as a bacterium or protozoan, that obtains its nourishment through the oxidation of inorganic chemical compounds, as opposed to photosynthesis.

climax community—a stable, mature community in a successive series that has reached equilibrium after having evolved through stages and adapted to its environment.

combustion—the process of burning.

community—formed from populations of different species occupying the same geographic area.

competitive exclusion—the process that occurs when two different species in a region compete and the better adapted species wins.

consumer—an organism that must obtain food energy from secondary sources, for example, by eating plant or animal matter.

decomposer—bacteria or fungi that absorb nutrients from nonliving organic matter like plant material, the wastes of living organisms, and corpses. They convert these materials into inorganic forms.

denitrification—the process by which specialized bacteria (mostly anaerobic bacteria) convert ammonia to NO_y , NO_z , and N_2 and release it back to the atmosphere.

detritivore—organisms that derive energy from consuming nonliving organic matter.

ecological succession—transition in species composition of a biological community, often following ecological disturbance of the community; the establishment of a biological community in any area virtually barren of life.

edge effect—the condition in which, at ecosystem boundaries, there is greater species diversity and biological density than there is in the heart of ecological communities.

energy pyramid—the structure obtained if we organize the amount of energy contained in producers and consumers in an ecosystem by kilocalories per square meter, from largest to smallest.

evaporation—to convert or change into a vapor.

evolution—change in the genetic composition of a population during successive generations as a result of natural selection acting on the genetic variation among individuals and resulting in the development of new species.

extinction—the death of an entire species; permanent inactivity

food chain—a succession of organisms in an ecological community that constitutes a continuation of food energy from one organism to another as each consumes a lower member and, in turn, is preyed upon by a higher member.

food web—a complex of interrelated food chains in an ecological community.

Gause's principle—states that no two species can occupy the same niche at the same time, and that the species that is less fit to live in the environment will either relocate, die out, or occupy a smaller niche.

Gross Primary Productivity—the amount of sugar that the plants produce in photosynthesis, and subtracting from it the amount of energy the plants need for growth, maintenance, repair, and reproduction.

habitat—the area or environment where an organism or ecological community normally lives or occurs.

habitat fragmentation—when the size of an organism's natural habitat is reduced, or when development occurs that isolates a habitat.

heterotroph—an organism that cannot synthesize its own food and is dependent on complex organic substances for nutrition.

indigenous species—species that originate and live, or occur naturally, in an area or environment.

invasive species—an introduced, nonnative species.

keystone species—a species whose very presence contributes to an ecosystem's diversity and whose extinction would consequently lead to the extinction of other forms of life.

Law of Conservation of Matter—states that matter can neither be created nor destroyed.

mutualism—a symbiotic relationship in which both species benefit.

natural selection—the process by which, according to Darwin's theory of evolution, only the organisms best adapted to their environment tend to survive and transmit their genetic characteristics in increasing numbers to succeeding generations, while those less adapted tend to be eliminated.

Net Primary Productivity (NPP)—the amount of energy that plants pass on to the community of herbivores in an ecosystem.

niche—the total sum of a species' use of the biotic and abiotic resources in its environment.

nitrification—the process in which soil bacteria convert ammonium (NH_4^+) to a form that can be used by plants; nitrate, or NO_3^- .

nitrogen fixation—the conversion of atmospheric nitrogen into compounds, such as ammonia, by natural agencies or various industrial processes.

omnivores—organisms that consume both producers and primary consumers.

parasitism—a symbiotic relationship in which one member is helped by the association and the other is harmed.

photosynthesis—the process in green plants and certain other organisms by which carbohydrates are synthesized from carbon dioxide and water using light as an energy source. Most forms of photosynthesis release oxygen as a byproduct.

pioneer species—organisms in the first stages of succession.

population—a group of organisms of the same species that live in the same area.

predation—when one species feeds on another.

primary consumers—this category includes organisms that consume producers (plants and algae).

primary succession—when ecological succession begins in a virtually lifeless area, such as the area behind a moving glacier.

producer—an organism that is capable of converting radiant energy or chemical energy into carbohydrates.

realized niche—when a species occupies a smaller niche than it would in the absence of competition.

reservoir—a place where a large quantity of a resource sits for a long period of time.

respiration—the process in which animals (and plants!) breathe and give off carbon dioxide from cellular metabolism.

residency time—the amount of time a resource spends in a reservoir or an exchange pool.

secondary consumers—organisms that consume primary consumers.

species—organisms that are capable of breeding with one another and incapable of breeding with other species.

symbiotic relationships—close, prolonged associations between two or more different organisms of different species that may, but do not necessarily, benefit the members.

tertiary consumers—organisms that consume secondary consumers or other tertiary consumers.

transpiration—the act or process of transpiring, or releasing water vapor, especially through the stomata of plant tissue or the pores of the skin.

trophic level—each of the feeding levels in a food chain.

CHAPTER 5: POPULATION ECOLOGY

age-structure pyramids—graphical representations of populations' ages.

albedo—the fraction of solar energy that is reflected back into space.

biotic potential—the amount that the population would grow if there were unlimited resources in its environment.

birth rate (crude birth rate)—the number of live births per 1,000 members of the population in a year.

carrying capacity—the maximum population size that can be supported by the available resources in a region.

death rate (crude death rate)—is equal to the number of deaths per 1,000 members of the population in a year.

demographic transition model—a model that's used to predict population trends based on the birth and death rates as well as economic status of a population.

ecological footprint—the amount of the earth's surface that's required to supply the needs of and dispose of the waste from a particular population.

emigration—the movement of individuals out of a population.

genetic drift—the random fluctuations in the frequency of the appearance of a gene in a small isolated population, presumably owing to chance, rather than natural selection.

immigration—the movement of individuals into a population.

k-selected—organisms that reproduce later in life, produce fewer offspring, and devote significant time and energy to the nurturing of their offspring.

logistic population growth—when a population is well below the size dictated by the carrying capacity of its region, it will grow exponentially, but as it approaches the carrying capacity, its growth rate will decrease and the size of the population will eventually become stable.

population density—the number of individuals of a population that inhabit a certain unit of land or water area.

replacement birth rate—the number of children a couple must have in order to replace themselves in a population.

r-selected—organisms that reproduce early in life and often and have a high capacity for reproductive growth.

total fertility rate—the number of children an average woman will bear during her lifetime; this information is based on an analysis of data from preceding years in the population in question.

CHAPTER 6: RESOURCE UTILIZATION

agroforestry—when trees and crops are planted together, creating a mutualistic symbiotic relationship between them.

aquaculture—the raising of fish and other aquatic species in captivity for harvest.

bottom trawling—a fishing technique in which the ocean floor is literally scraped by heavy nets that smash everything in their path.

by-catch—any other species of fish, mammals, or birds that are caught that are not the target organism.

capture fisheries—fish farming in which fish are caught in the wild and not raised in captivity for consumption.

clear-cutting—the removal of all of the trees in an area.

conservation—the management or regulation of a resource so that its use does not exceed the capacity of the resource to regenerate itself.

consumption—the day-to-day use of environmental resources such as food, clothing, and housing.

contour plowing—a process in which rows of crops are plowed across the hillside; this prevents the erosion that can occur when rows are cut up and down on a slope.

deforestation—the removal of trees for agricultural purposes or purposes of exportation.

driftnets—nets that are dragged through the water and indiscriminately catch everything in their path.

ecosystem capital—the value of natural resources.

fishery—the industry or occupation devoted to the catching, processing, or selling of fish, shellfish, or other aquatic animals.

greenbelt—open or forested areas built at the outer edge of a city.

ground fires—smoldering fires that take place in bogs or swamps and can burn underground for days or weeks. Originating from surface fires, ground fires are difficult to detect and extinguish.

intercropping—(also called strip cropping) is the practice of planting bands of different crops across a hillside.

long lining—in fishing, the use of long lines that have baited hooks and will be taken by numerous aquatic organisms.

malnutrition—poor nutrition that results from an insufficient or poorly balanced diet.

mineral deposit—an area where a particular mineral is concentrated.

mining—the excavation of the earth for the purpose of extracting ore or minerals.

monoculture—when just one type of plant is planted in a large area.

natural resources—biotic and abiotic natural ecosystems.

nonrenewable resources—resources that are often formed by very slow geologic processes, so we consider them incapable of being regenerated within the realm of human existence.

no-till methods—refers to when farmers plant seeds without using a plow to turn the soil.

old growth forest—one that has never been cut; these forests have not been seriously disturbed for several hundred years.

overgrazed—when grass is consumed by animals at a faster rate than it can regrow.

preservation—the maintenance of a species or ecosystem in order to ensure its perpetuation, with no concern as to their potential monetary value.

production—the use of environmental resources for profit.

renewable resources—refers to resources, such as plants and animals, which can be regenerated if harvested at sustainable yields.

second growth forests—areas where cutting has occurred and a new, younger forest has arisen.

selective cutting—the removal of select trees in an area; this leaves the majority of the habitat in place and has less of an impact on the ecosystem.

shelter-wood cutting—when mature trees are cut over a period of time (usually 10–20 years); this leaves mature trees, which can reseed the forest, in place.

silviculture—the management of forest plantations for the purpose of harvesting timber.

slash and burn—when an area of vegetation is cut down and burned before being planted with crops.

surface fires—fires that typically burn only the forest's underbrush and do little damage to mature trees. These fires actually serve to protect the forest from more harmful fires by removing underbrush and dead materials that would burn quickly and at high temperatures.

tailings—piles of gangue, which is the waste material that results from mining.

traditional subsistence agriculture—when each family in a community grows crops for themselves and relies on animal and human labor to plant and harvest crops.

terracing—creating flat platforms in the hillside that provide a level planting surface, which reduces soil runoff from the slope.

tree farms—also known as plantations, these are planted and managed tracts of trees of the same age that are harvested for commercial use.

uneven-aged management—the broad category under which selective cutting and shelter-wood cutting fall; selective deforestation.

CHAPTER 7: ENERGY

active collection—the use of devices, such as solar panels, to collect, focus, transport, or store solar energy.

anthracite—the cleanest-burning coal; almost pure carbon.

barrels—the unit used to describe the volume of fossil fuels.

bituminous—the second-purest form of coal.

crude oil—the form petroleum takes when in the ground.

energy—the capacity to do work.

fission—a nuclear reaction in which an atomic nucleus, especially a heavy nucleus such as an isotope of uranium, splits into fragments, usually two fragments of comparable mass, releasing from 100 million to several hundred million electron volts of energy.

fossil fuel—a hydrocarbon deposit, such as petroleum, coal, or natural gas, derived from living matter of a previous geologic time and used for fuel.

First Law of Thermodynamics—says that energy can neither be created nor destroyed; it can only be transferred and transformed.

fly ash—a waste product produced by the burning of coal.

half-life—the amount of time it takes for half of a radioactive sample to disappear.

Hubbert peak (peak oil)—an influential theory that concerns the long-term rate of conventional oil (and other fossil fuel) extraction and depletion. It predicts that future world oil production will soon reach a peak and then rapidly decline.

hydroelectric power—power generated using water.

kinetic energy—the energy of motion.

lignite—the least pure coal.

nuclear fusion—the process of fusing two nuclei.

overburden—the rocks and earth that are removed when mining for a commercially valuable mineral resource.

passive solar energy collection—the use of building materials, building placement, and design to passively collect solar energy that can be used to keep a building warm or cool.

peak oil (Hubbert peak)—an influential theory that concerns the long-term rate of conventional oil (and other fossil fuel) extraction and depletion. It predicts that future world oil production will soon reach a peak and then rapidly decline.

petroleum—a hydrocarbon that forms as sediments are buried and pressurized.

photovoltaic cell (PV cell)—a semiconductor device that converts the energy of sunlight into electric energy.

potential energy—energy at rest, or stored energy.

proven reserve—an estimate of the amount of fossil fuel that can be obtained from reserve.

radiant energy—sunlight.

scrubbers—devices containing alkaline substances that precipitate out much of the sulfur dioxide from industrial plants.

Second Law of Thermodynamics—says that the entropy (disorder) of the universe is increasing. One corollary of the Second Law of Thermodynamics is the concept that, in most energy transformations, a significant fraction of energy is lost to the universe as heat.

strip mining—involves the removal of the earth's surface all the way down to the level of the mineral seam.

subbituminous—the third purest form of coal.

underground mining—involves the sinking of shafts to reach underground deposits. In this type of mining, networks of tunnels are dug or blasted and humans enter these tunnels in order to manually retrieve the coal.

wind farm—a group of modern windmills.

CHAPTER 8: POLLUTION

acid precipitation—acid rain, acid hail, acid snow; all of which occur as a result of pollution in the atmosphere.

acute effect—the effect caused by a short exposure to a high level of toxin.

catalytic converter—a platinum-coated device that oxidizes most of the VOCs and some of the CO that would otherwise be emitted in exhaust, converting them to CO₂.

closed-loop recycling—when materials, such as plastic or aluminum, are used to rebuild the same product. An example of this is the use of the aluminum from aluminum cans to produce more aluminum cans.

composting—a process that allows the organic material in solid waste to be decomposed and reintroduced into the soil, often as fertilizer.

building-related illness—when the signs and symptoms of an illness can be attributed to a specific infectious organism that resides in the building.

chronic effect—an effect that results from long-term exposure to low levels of toxin.

deep well injection—drilling a hole in the ground that's below the water table to hold waste.

disease—occurs when infection causes a change in the state of health.

dose-response analysis—a process in which an organism is exposed to a toxin at different concentrations, and the dosage that causes the death of the organism is recorded.

dose-response curve—the result of graphing a dose-response analysis.

ED₅₀—the point at which 50 percent of the test organisms show a negative effect from a toxin.

global warming—an intensification of the Greenhouse Effect due to the increased presence of heat-trapping gases in the atmosphere.

gray smog (industrial smog)—smog resulting from emissions from industry and other sources of gases produced by the burning of fossil fuels, especially coal.

hazardous waste—any waste that poses a danger to human health; it must be dealt with in a different way from other types of waste.

heat islands—urban areas that heat up more quickly and retain heat better than nonurban areas.

high-level radioactive waste—radioactive wastes that produce high levels of ionizing radiation.

industrial smog (gray smog)—smog resulting from emissions from industry and other sources of gases produced by the burning of fossil fuels.

infection—the result of a pathogen invading a body.

LD₅₀—the point at which 50 percent of the test organisms die from a toxin.

leachate—the liquid that percolates to the bottom of a landfill.

low-level radioactive waste—radioactive wastes that produce low levels of ionizing radiation.

noise pollution—any noise that causes stress or has the potential to damage human health.

non-point source pollution—pollution that does not have a specific point of release.

open-loop recycling—when materials are reused to form new products.

ozone holes—the thinning of the ozone layer over Antarctica (and to some extent, over the Arctic).

pathogens—bacteria, virus, or other microorganisms that can cause disease.

photochemical smog—when photochemical smog, NO_x compounds, VOCs, and ozone combine to form smog with a brownish hue.

point source pollution—a specific location from which pollution is released; an example of a point source location is a factory where wood is being burned.

poison—any substance that has an LD₅₀ of 50 mg or less per kg of body weight.

physical treatment—in a sewage treatment plant, the initial filtration that is done to remove debris such as stones, sticks, rags, toys, and other objects that were flushed down the toilet.

primary pollutants—pollutants that are released directly into the lower atmosphere.

primary treatment—when physically treated sewage water is passed into a settling tank, where suspended solids settle out as sludge; chemically treated polymers may be added to help the suspended solids separate and settle out.

risk assessment—calculating risk, or the degree of likelihood that a person will become ill upon exposure to a toxin or pathogen.

risk management—using strategies to reduce the amount of risk (the degree of likelihood that a person will become ill upon exposure to a toxin or pathogen).

secondary pollutants—pollutants that are formed by the combination of primary pollutants in the atmosphere.

secondary treatment—the biological treatment of wastewater in order to continue to remove biodegradable waste.

sick building syndrome—when the majority of a building's occupants experience certain symptoms that vary with the amount of time spent in the building.

sludge—the solids that remain after the secondary treatment of sewage.

sludge processor—a tank filled with aerobic bacteria that's used to treat sewage.

solid waste—can consist of hazardous waste, industrial solid waste, or municipal waste. Many types of solid waste provide a threat to human health and the environment.

stationary sources—non-moving sources of pollution, such as factories.

Superfund Program—a program funded by the federal government and a trust that's funded by taxes on chemicals; identifies pollutants and cleans up hazardous waste sites.

threshold dose—the dosage level of a toxin at which a negative effect occurs.

toxicity—the degree to which a substance is biologically harmful.

toxin—any substance that is inhaled, ingested, or absorbed at dosages sufficient to damage a living organism.

tropospheric ozone—ozone that exists in the troposphere.

U.S. Noise Control Act—gave the EPA power to set emission standards for major sources of noise, including transportation, machinery, and construction.

vector—the carrier organism through which pathogens can attack.

wastewater—any water that has been used by humans. This includes human sewage, water drained from showers, tubs, sinks, dishwashers, washing machines, water from industrial processes, and storm water runoff.

Waste-to-Energy (WTE) program—when the energy released from waste incineration is used to generate electricity.

CHAPTER 9: CULTURE, SOCIETY, AND ENVIRONMENTAL QUALITY

green tax—a fiscal policy that lowers taxes on income, including wages and profit, and raises taxes on consumption, particularly the unsustainable consumption of non-renewable resources.

market permits—when companies are allowed to buy permits that allow them a certain amount of discharge of substances into certain environmental outlets. If they can reduce their amount of discharge, they are allowed to sell the remaining portion of their permit to another company.