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| **Glossary** |  |
| **Chapter 18** |  |
| **acid** | Any water solution that has more hydrogen ions (H+) than hydroxide ions (OH?); any water solution with a pH less than 7. Compare basic solution, neutral solution. See acid solution. |
| **acid deposition** | The falling of acids and acid-forming compounds from the atmosphere to the earth's surface. Acid deposition is commonly known as acid rain, a term that refers to the wet deposition of droplets of acids and acid-forming compounds. |
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| **air pollution** | One or more chemicals in high enough concentrations in the air to harm humans, other animals, vegetation, or materials. Excess heat is also considered a form of air pollution. Such chemicals or physical conditions are called air pollutants. See primary pollutant, secondary pollutant. |
| **atmosphere** | Whole mass of air surrounding the earth. See stratosphere, troposphere. Compare biosphere, geosphere, hydrosphere. |
| **atmospheric pressure** | Force or mass per unit area of air, caused by the bombardment of a surface by the molecules in air. |
| **buffer** | Substance that can react with hydrogen ions in a solution and thus hold the acidity or pH of a solution fairly constant. See pH. |
| **chlorofluorocarbons (CFCs)** | Organic compounds made up of atoms of carbon, chlorine, and fluorine. An example is Freon-12 (CCl2F2), which is used as a refrigerant in refrigerators and air conditioners and in making plastics such as Styrofoam. Gaseous CFCs can deplete the ozone layer when they slowly rise into the stratosphere and their chlorine atoms react with ozone molecules. Their use is being phased out. |
| **density** | Mass per unit volume. |
| **EPA** | U.S. Environmental Protection Agency; responsible for managing federal efforts to control air and water pollution, radiation and pesticide hazards, environmental research, hazardous waste, and solid waste disposal. |
| **industrial smog** | Type of air pollution consisting mostly of a mixture of sulfur dioxide, suspended droplets of sulfuric acid formed from some of the sulfur dioxide, and suspended solid particles. Compare photochemical smog. |
| **nitrogen oxides (NOx)** | See nitric oxide and nitrogen dioxide. |
| **ozone depletion** | Decrease in concentration of ozone (O3) in the stratosphere. See ozone layer. |
| **ozone layer** | Layer of gaseous ozone (O3) in the stratosphere that protects life on earth by filtering out most harmful ultraviolet radiation from the sun. |
| **particulates** | Also known as suspended particulate matter (SPM); variety of solid particles and liquid droplets small and light enough to remain suspended in the air for long periods. About 62% of the SPM in outdoor air comes from natural sources such as dust, wild fires, and sea salt. The remaining 38% comes from human sources such as coal-burning electric power and industrial plants, motor vehicles, plowed fields, road construction, unpaved roads, and tobacco smoke. |
| **photochemical smog** | Complex mixture of air pollutants produced in the lower atmosphere by the reaction of hydrocarbons and nitrogen oxides under the influence of sunlight. Especially harmful components include ozone, peroxyacyl nitrates (PANs), and various aldehydes. Compare industrial smog. |
| **primary pollutant** | Chemical that has been added directly to the air by natural events or human activities and occurs in a harmful concentration. Compare secondary pollutant. |
| **secondary pollutant** | Harmful chemical formed in the atmosphere when a primary air pollutant reacts with normal air components or other air pollutants. Compare primary pollutant. |
| **smog** | Originally a combination of smoke and fog but now used to describe other mixtures of pollutants in the atmosphere. See industrial smog, photochemical smog. |
| **stratosphere** | Second layer of the atmosphere, extending about 17?48 kilometers (11?30 miles) above the earth's surface. It contains small amounts of gaseous ozone (O3), which filters out about 95% of the incoming harmful ultraviolet radiation emitted by the sun. Compare troposphere. |
| **suspended particulate matter** | Also known as suspended particulate matter (SPM); variety of solid particles and liquid droplets small and light enough to remain suspended in the air for long periods. About 62% of the SPM in outdoor air comes from natural sources such as dust, wild fires, and sea salt. The remaining 38% comes from human sources such as coal-burning electric power and industrial plants, motor vehicles, plowed fields, road construction, unpaved roads, and tobacco smoke. See particulates. |
| **temperature inversion** | Layer of dense, cool air trapped under a layer of less dense, warm air. It prevents upward-flowing air currents from developing. In a prolonged inversion, air pollution in the trapped layer may build up to harmful levels. |
| **thermal inversion** | Layer of dense, cool air trapped under a layer of less dense, warm air. It prevents upward-flowing air currents from developing. In a prolonged inversion, air pollution in the trapped layer may build up to harmful levels. See temperature inversion. |
| **volatile organic compounds (VOCs)** | Organic compounds that exist as gases in the atmosphere and act as pollutants, some of which are hazardous. |