

## Earth's Resources

### Key Ideas

- Natural resources include air, water, soil, minerals, and energy.
- Resources are either renewable (having an endless supply) or nonrenewable (having a limited supply).
- Conservation efforts limit the consumption, overuse, and pollution of the natural environment.

A **resource** is anything that is needed by humans to survive. Natural resources include air, water, soil, minerals, and energy. Air is involved in respiration, climate, and weather. Water is used for drinking, cooking, bathing, agriculture, and industrial processes. Less than 3 percent of the world's water is fresh water. **Soil** is the layer of loose disintegrated rock, organic matter, living organisms, air, and water in which rooted plants, including agricultural plants, grow. **Minerals** are the naturally forming inorganic substances with a crystalline structure of which rocks are made; they have many uses—from talcum powder to uranium fuel rods to diamond drill bits. **Energy resources** include fossil fuels, flowing water, wind, solar energy, and geothermal energy.

Resources can be classified as nonrenewable or renewable. **Nonrenewable resources** are those that take millions of years to form naturally; when they are used up, there is no replacement for them. For example, fossil fuels, including peat, coal, natural gas, and oil, are nonrenewable resources because they form over millions of years from decaying plant remains. Fossil fuels are our main source of energy for heating, transportation, and the generation of electricity. Soil and minerals are also nonrenewable resources.

**Renewable resources** are those whose supply will not run out, either because there is an unlimited supply, as is the case with solar energy (energy from the sun), or because the resource cycles through the environment, as is the case with water. In addition to solar energy, renewable energy resources include the water power of flowing rivers, tidal and wave power from the movement of ocean water, wind power from the movement of air, and geothermal power from the heat in the Earth's crust. All of these are used as alternative sources of energy to generate electricity.

People harm or destroy natural resources through consumption, overuse, and pollution. For example, some scientists estimate that we have already consumed between one-tenth and one-quarter of the world's supply of oil. Soil is subject to agricultural overuse and erosion. Air is polluted by fossil fuel emissions and its **ozone layer** is depleted by the release of compounds called chlorofluorocarbons (CFCs) into the atmosphere. Water is polluted by sewage, industrial waste, and agricultural and urban runoff.

**Conservation** is any action taken to preserve natural resources and protect the natural environment. Conservation involves a wide range of activities, including building more efficient combustion engines to reduce gasoline consumption; using catalytic converters to reduce the harmful emissions of burning fossil fuels; developing technologies to exploit renewable sources of energy; recycling glass, plastic, and metal wastes; using agricultural methods that protect the soil; building water treatment and sewage treatment plants; safely disposing of radioactive wastes; and cleaning up sites heavily polluted by industry.

### ON THE GED® TEST

*Some Earth and space science questions may deal with the impact of humans on natural resources and the environment.*