Vocabulary/Ch. 8

Friedland

**core**: The innermost layer of the Earth

**mantle**: The layer of the Earth above the core, containing magma

**magma**: Molten rock

**asthenosphere**: The layer of the Earth located in the outer part of the mantle, composed of semi-molten rock

**lithosphere**: The outermost layer of the Earth, including the mantle and crust

**crust**: In geology, the chemically distinct outermost layer of the lithosphere

**hot spots**: In geology, a place where molten material from Earth’s mantle reaches the lithosphere

**plate tectonics**: The theory that the lithosphere of the Earth is divided into plates, most of which are in constant motion

**tectonic cycle**: The cycle of processes that build up and break down the lithosphere

**subduction**: The process of one crustal plate passing under another

**volcano**: A vent in the surface of Earth that emits ash, gases, or molten lava

**divergent plate boundaries**: An area beneath the ocean where tectonic plates move away from each other

**seafloor spreading**: The formation of new ocean crust as a result of magma pushing upward and outward from Earth’s mantle to the surface

**convergent plate boundaries**: An area where plates move toward one another and collide

**transform fault boundary**: An area where tectonic plates move sideways past each other

**fault**: A fracture in rock caused by movement of Earth’s crust

**fault zone**: A large expanse of rock where a fault has occurred

**earthquakes**: The sudden movement of Earth’s crust caused by a release of potential energy along a geologic fault and usually causing a vibration or trembling at Earth’s surface

**seismic activity**: The frequency and intensity of earthquakes

**epicenter**: The exact point on the surface of Earth directly above the location where rock ruptures during an earthquake

**Richter scale**: A scale that measures the largest ground movement that occurs during an earthquake

**rock cycle**: The continuous formation and destruction of rock on and below the surface of Earth

**mineral**: A solid chemical substance with a uniform, often crystalline, structure that forms under specific temperatures and pressures

**igneous rocks**: Rock formed directly from magma

**intrusive rocks**: Igneous rock that forms when magma rises up and cools in place underground

**extrusive rocks**: Rock that forms when magma cools above the surface of the Earth

**fracture**: In geology, a crack that occurs in rock as it cools

**sedimentary rocks**: Rock that forms when sediments such as muds, sands, or gravels are compressed by overlying sediments

**metamorphic rocks**: Rock that forms when sedimentary rock, igneous rock, or other metamorphic rock is subjected to high temperature and pressure

**physical weathering**: The mechanical breakdown of rocks and minerals

**chemical weathering**: The breakdown of rocks and minerals by chemical reactions, the dissolving of chemical elements from rocks, or both

**acid precipitation or rain**: Precipitation high in sulfuric acid and nitric acid from reactions between sulfur dioxide and water vapor and nitrogen oxides and water vapor in the atmosphere

**erosion**: The physical removal of rock fragments from a landscape or ecosystem

**deposition**: The accumulation of depositing of eroded material such as sediment, rock fragments, or soil

**soil**: A mix of geologic and organic components that forms a dynamic membrane covering much of Earth’s surface

**parent material**: Rock underlying soil; the material from which the inorganic components of a soil are derived

**O horizon**: The organic horizon at the surface of many soils, composed of organic detritus in various stages of decomposition

**A horizon**: Frequently the top layer of soil, characterized by mixing of organic material and mineral material

**topsoil**: Frequently the top layer of soil, characterized by mixing of organic material and mineral material

**E horizon**: The one of leaching that forms under the O horizon or, less often, the A horizon

**B horizon**: Frequently the second major soil horizon, composed primarily of mineral material with very little organic matter

**C horizon**: The least-weathered soil horizon, which always occurs beneath the B horizon and is similar to the parent material

**texture**: The property of soil determined by relative proportions of sand, silt, and clay

**cation exchange capacity (CEC)**: The ability of a particular soil to absorb and release cations

**base saturation**: The proportion of soil bases to soil acids expressed as a percentage

**soil degradation**: The loss of some or all of a soil’s ability to support plant growth

**crustal abundance**: The average concentration of an element in Earth’s crust

**ore**: A concentrated accumulation of minerals from which economically valuable materials can be extracted

**metal**: An element with properties that allows it to conduct electricity and heat energy, and perform other important functions

**reserve**: In resource management, the known quantity of a resource that can be economically recovered

**strip mining**: The removal of strips of soil and rock to expose ore

**mining spoils or tailings**: Unwanted waste material created during mining

**open-pit mining**: A mining technique that uses a large pit or hole in the ground, visible from the surface of Earth

**mountaintop removal**: A mining technique in which the entire top of a mountain is removed with explosives

**placer mining**: A mining technique in which metals and precious stone are sought in river sediments

**subsurface mining**: Mining techniques used when the desired resource is more that 100 m (328 feet) below the surface of Earth