

Chapter 3 Section 1 Notes

Earth as an Integrated System

Geosphere – solid rocky part of Earth; crust to core

Atmosphere – the mixture of gases that make up the air we breathe

Hydrosphere – includes all of the water on or near Earth's surface

Biosphere – part of Earth where life exists

Compositional Layers of the Earth		Physical Layers of the Earth
Crust (<i>Earth's thin outer layer</i>)		Lithosphere (<i>the crust and parts of the upper mantle; tectonic plates are the pieces of the lithosphere</i>)
Mantle (<i>layer of Earth between the crust and the core</i>)		Asthenosphere
		Mesosphere
Core (<i>Earth's innermost compositional layer</i>)		Outer core (<i>liquid</i>)
		Inner core (<i>solid; 4000°C - 5000°C</i>)

The Geosphere

Plate Tectonics

Things that often happen at plate boundaries:

Mountain building – The Himalayan Mountains, the Pyrenees, the Appalachian Mountains, and the Rocky Mountains were all formed when tectonic plates collided.

Earthquakes – vibrations caused by slippage along a fault (*break in the Earth's crust*)

Energy is released by an earthquake in the form of seismic waves. Richter scale is used to tell how much energy is released (referred to as magnitude) Each increase in magnitude by 1 whole number increases the energy released by about 30 times more energy.

Magnitude 4 has 30 times more energy than a Magnitude 3

Magnitude 5 has 30 times more energy than a Magnitude 4

Volcanoes – mountains built from magma (*melted rock*); happen at tectonic plate boundaries that are colliding **and** at those that are separating from one another.

Mudflow – volcanic ash mixed with water during an eruption

Weathering and Erosion

Erosion – removal and transport of surface material by wind or water

Wind and water erosion affect mountains, rocks, and soil.