Earth's Tectonic Plates

Plate Tectonics

The **lithosphere** is divided into a dozen major and several minor **plates**. The movement of the plates over Earth's surface is called **plate tectonics**. These plates can be composed in a combination of oceanic lithosphere or continental lithosphere. An earthquakes **epicenter** is the point on Earth's surface directly above the place where the earthquake occurs. Earthquake epicenters outline the plates because earthquakes occur everywhere plates come into contact with each other.

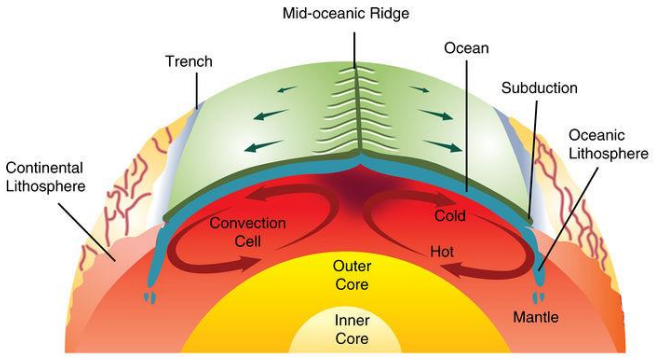
Study Tip

You can replicate plate tectonics with a piece of clay: mash two flat pieces together and to have a convergent boundary, pull them apart to see a divergent boundary, and slide them together to see a transform boundary.

How Plates Move

Mantle convection drives plate movement

1. Hot mantle form two adjacent cells rises at the ridge axis, creating new ocean crust
2. The top part of the convection cell moves horizontally away from the ridge crest
3. The outer parts of the convection cells plunge down into the deeper mantle, which also drags oceanic crust with it
4. The material sinks to the core and moves horizontally
5. Material heats up and reaches the zone where it rises again



Hot material rises at mid-ocean ridges and sinks at deep-sea trenches, which keeps the plates moving along the Earth's surface

Plate Boundaries

Plate Boundaries are the areas where two plates meet. The type of plate boundary and the type of crust found on the boundary determines what kinds of geologic activity are present.

Boundary Type	Description
Divergent Plate Boundary	Two plates move away from each other
Convergent Plate Boundary	Two plates move towards each other
Transform Plate Boundary	Two plates slip past each other

Concept Check

- Define and describe the three types of plate boundaries.
- Explain how plates move.
- Describe where plates are located