

Question: What are the three types of plate boundaries?

The Theory of Plate Tectonics

J. Tuzo Willson (1965) was a Canadian scientist that proposed the lithosphere is broken into separate sections called **plates**.

Wilson combined information from **continental drift**, **sea-floor spreading** and **Earth's plates** into a single **scientific theory**, or a well-tested concept that explains a wide range of observations.

Theory of plate tectonics explains the formation, movement and subduction of Earth's plates.

Theory highlights:

- plates float on top of the asthenosphere
- convection currents rise in the asthenosphere and spread out beneath the lithosphere
- convection currents cause plates to move, producing changes in Earth's surface
- changes in Earth's surface include volcanoes, mountain ranges and deep ocean trenches

The edges of the plates meet at lines called **plate boundaries**.

When rocks slip past each other along these boundaries **faults**, or breaks in the Earth's crust occur. Three types of boundaries:

transform boundary - place where two plates slip past each other, moving in opposite directions (frequent Earthquakes)

divergent boundary - two plates move apart, or diverge; usually occur at the mid-ocean ridge

- **rift valley** - occurs when a deep valley is formed along a divergent boundary that develops on land

convergent boundary - place where two plates come together, or converge, causing a collision

- when two plates of oceanic crust collide, or when an oceanic plate collides with a continental plate, one plate is subducted beneath the other forming a trench; when two continental plates collide they form mountains