

What are plate tectonics?

Plate tectonics are the movement of different parts of the Earth's crust. They allow the earth to lose excess heat.

How do plate tectonics work?

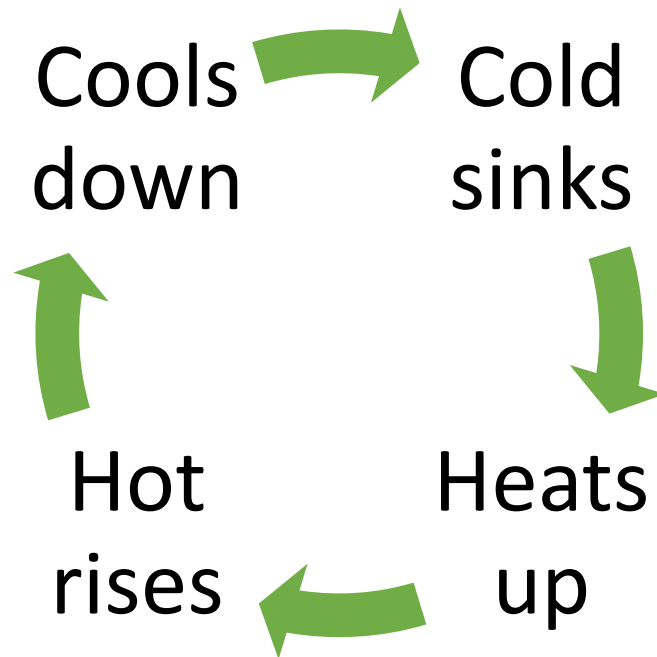
Plate tectonics is powered by mantle convection.

What is mantle convection?

As the mantle acts as a fluid over a long period of time, convection currents based on temperature differences occur.

What is a convection current?

Convection currents are based on density, most commonly due to temperature differences. Colder matter is denser than warmer matter, causing the cold matter to sink forcing the warmer matter up where it cools down and sinks. The diagram below illustrates this.






What evidence is there of plate tectonics?

The initial evidence for plate tectonics was based on fossils found across continents. Where there was identical fossils on different continents it was able to be deduced that those planets were originally connected. Similar to this was evidence based on glaciers and mountain ranges spanning across multiple continents.

Newer evidence was based on seafloor spreading as first discovered by boats looking for submarines through magnetism. The reason spreading is evident is because of the flipping magnetism of the poles which magnetic particles in the magma align themselves with. The fact that not all the sea floor was aligned in the same direction indicated that it formed over a long period of time

What types of plate boundaries exist?

Name	Other names	What it is	What it does	Example	Diagram
Divergence	Rifting Extensional	Plates pulling apart	Seafloor spreading	Mid Atlantic Ridge	
Subduction	Type of convergent	Plates converging and one going over the other	Volcanoes (hydration melting)	Nazcar plate going under the South American Plate	
Collision	Type of convergent Compressional	Plates converging and going up	Mountain building	Himalayas	
Transform	Sliding	Plates sliding next to each other	Earthquakes	San Andreas Fault	