

Plate jigsaw puzzle. if  
fitted together, the



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Plate Tectonics Prior to World War II, humans were conformed with the idea that the Earth and its continents had been basically unchanged since the beginning of time. A German meteorologist, Alfred Wegener observed that the coastlines of the seven continents could be fitted together almost perfectly like a jigsaw puzzle. If fitted together, the geological dating the land would match as well as other geological features.

He believed that this was more than coincidence, which happened to be the belief at the time. By putting all the continents together, he formed a large landmass that he named Pangea. This would also explain the same fossils found on 2 continents, separated by large oceans. Although the continents fit together nicely, and it would solve many of the earth's mysteries, people still rejected the idea that the continents moved for several reasons. Ignorance and strong religious beliefs played a part in this, but it was mainly rejected because of the lack of a good explanation for the movement of the continents. Wegener's theory for the movement of continents was called continental drift. This was not believable at the time because there was no way the continents could move through the rigid ocean floor.

During WWII, people started to explore the ocean floor and discovered evidence that would prove Wegener's ideas about land movement. The most interesting feature of the ocean was the ridges running along the ocean floor. It was discovered that earthquakes were abundant along the ridges that let magma flow from them. The magma would flow out these ridges and push the Earth away from it. This sea floor spreading was how the continents had moved over millions of years.

The earth's crust is in mobile sections called plates, moved by the circulation of magma in a layer of the earth called the mantle. The moving and colliding of plates form many of today's landforms such as the Himalayan Mountains. They were formed when India moved into Asia, colliding and making the shores of India go underneath Asia. Although we have found much on plate tectonics, there are still some unanswered questions. The depths of the plates are still unknown.

Scientists are still unsure on how the motion of the mantle was initiated. There are many theories on how plate tectonics works and why the polarization of the Earth switches every million years but there have been no concrete facts. Plate tectonics needs to be explored more in order to solve much of the mysteries of the earth. It has already answered many questions about the geologic history. The moving plates, volcanoes, and faults explain much of the earth's topography. If we come to a better understanding of plate tectonics, the evolution of different species of animals will become clearer to us.

The history of plate tectonics will help us understand the past migrations of species and even early humans. Not only can studying plate tectonics help in understanding the past but can help predict the future. Advancement of these theories may help predict earthquakes in plenty of time to spare millions of lives and can help us predict the topography of the future.