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**Abstract:** Plate tectonics is the theory that all continents of the earth were once united in a huge land mass called Pangea. The continents broke apart and began to drift on plates of the earth's lithosphere. People had been posing this idea since the 4th century B.C., when Greek philosopher Aristotle noticed that marine animals could be found on the tops of mountains. Scientists present evidence supporting plate tectonics by plotting the occurrence of earthquakes and volcanoes. Most earthquakes happen along the boundaries of continental plates.

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## PLATE TECTONICS

### [Plate tectonics is the theory that all the continents of the earth were once united in a huge land mass called Pangea.](#)

The continents broke apart and began to drift on plates of the earth's lithosphere. People had been posing this idea since the 4th century B.C., when Aristotle noticed that marine animals could be found on the tops of mountains. Today however, much more evidence exists to support the theory of plate tectonics.

One easy way to search for proof of plate tectonics is to look at a map. Notice that the western shoreline of Africa and the eastern shoreline of South America fit together. These areas have fossils in common even though in the present they are separated by thousands of miles of ocean. Scientists also present evidence supporting plate tectonics by plotting the occurrence of earthquakes and volcanoes. Most earthquakes happen along the boundaries of continental plates. The San Andreas Fault Zone in California is at the place where one plate slides along the edge of another. The volcanic islands of Japan are created as one plate subducts (slides on top of) another.

Plate tectonics still occur today and the earth is constantly being formed and changed. One prediction for future plate movement is that the continents of North and South America, which share a plate, will collide with the continental plate of Asia. The Himalayan Mountains will continue to grow higher as the continent of India is subducted by Asia. Eventually all of the continents may merge to form another huge land mass and the whole process will start over again.

### [PANGAEA](#)

About 200 million years ago, all of the seven continents were once one enormous land mass, called Pangea. Half of Pangea was in the Southern hemisphere, and what is now the United States used to lay near the equator. Pangea "broke" into two supercontinents, called Laurasia and Gondwanaland, after sixty-five million years of

drifting. These continued to break and move into what are now the present positions of our seven continents. Although you can't feel it, the continents below you are moving and will continue to drift for years to come!

### QUICKSAND

**Quicksand is an area of extremely fine, wet sand.** There is often so much water between the grains that none of them can settle, and the mass can hold no weight. One of two things could happen to a person if they happened to fall into a patch of quicksand. If it is extremely thick and dense, anything or anyone would probably sink rather quickly. On the other hand, if it is thinner, there is a better chance of floating.

**All someone needs to do is to relax, lie on their back, and spread out their arms like an airplane.**

### SINKHOLES

A sinkhole is a circular depression upon the ground into which water drains and collects. These depressions occur in limestone rock, and often connect with underground cave systems through which the water drains. The limestone has been softened by glacier action, to later collapse and form a depression in the land.

### LANDSLIDES

**Landslides happen when a mass of land or rocks slides down a slope.** They are caused by water seeping into rocks, freezing, and breaking the rocks into fragments. Landslides are also caused by earthquakes and the ocean tides crashing against the coast.

Landslides are most dangerous when people build homes and towns in the areas in which they occur. If a house is built upon a weak foundation of mud and loose rock, that house could unfortunately become part of a massive landslide, and anyone inside would most likely get injured. Landslides are also dangerous near highways, when rocks accidentally fall upon passing cars from surrounding hills.

### AVALANCHES

**An avalanche is a large mass of snow that slides down a mountain slope.** They are caused mainly by weather that causes snow piles to become unstable, but can also be caused by strong winds, earth tremors, explosions, and even skiers!

There are three kinds of avalanches. "Dry snow" are powdery and move up to 100 miles per hour. "Wet snow" move more slowly and are very dense. And in a "slab" avalanche, a solid piece of snow breaks loose as a slab and splits into pieces as it slides.



PANGAEA'S LAND MASSES

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