

Name \_\_\_\_\_

# PLATE TECTONICS

**Directions:** Read the information below.

## The Theory of Plate Tectonics

Did you know Earth sits on top of a set of plates? These aren't like the plates you put your dinner on; these are plates made out of rock. All of our oceans and continents sit on plates. Scientists have theorized their movement over time. These plates and their movement make up the Theory of Plate Tectonics.

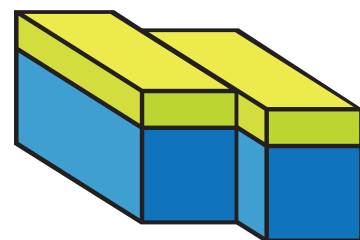
At one time, the continents did not look the way they do now. In fact, it was almost like a puzzle. It is believed that the continents were all sitting together. Notice how the edges of South America and Africa appear to fit with each other, for example. Earth's surface doesn't look the same anymore because the plates on which the continents and ocean rest have moved, largely shifting apart.

Plates are hard rock that sit upon a softer layer called the asthenosphere. They may slide in all directions and continually move at a very slow rate (so slow that you cannot see or feel it). The only way that these movements may be observed is during an earthquake. Plate movement is the direct cause of earthquakes. There are three types of movements: divergent, convergent, and transform.

A divergent boundary occurs when two plates move away from each other. This creates a kind of crack in Earth's surface where magma pours up into the crevice, creating a new crust.

A convergent boundary occurs when two plates push into each other. Volcanoes are formed in this way. When two plates collide, pieces of the surface can slide into each other, rising up to create a volcano. Under the surface, a subduction zone allows for magma to rise.

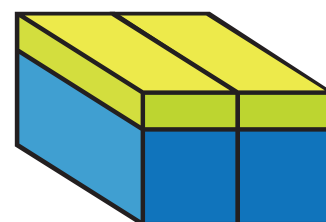
A transform boundary occurs when two plates move past each other. While this may seem relatively harmless, it can be dangerous and cause large earthquakes. This is seen in California along the San Andreas fault line.



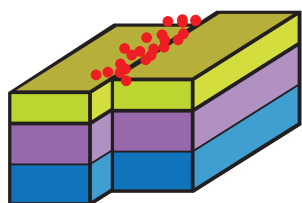
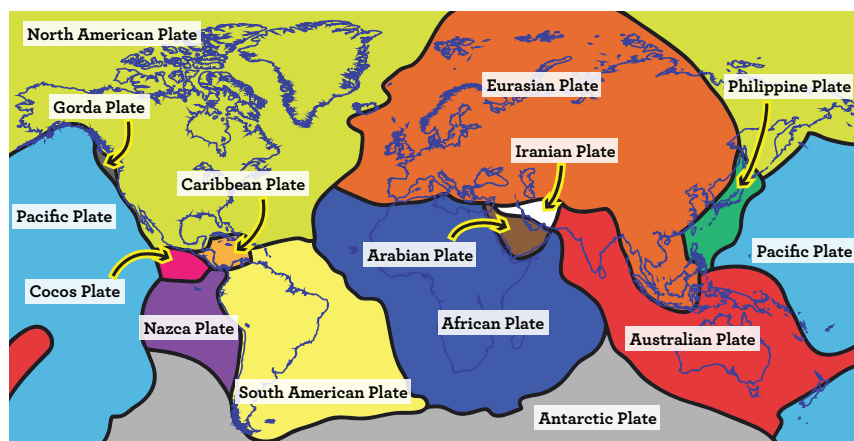
**Transform**



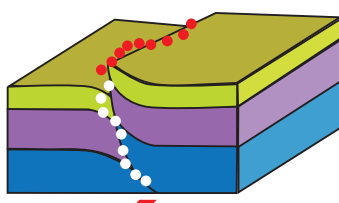
**Divergent**



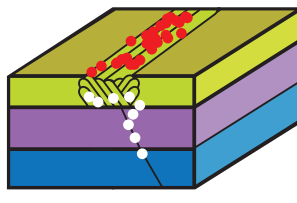
**Convergent**



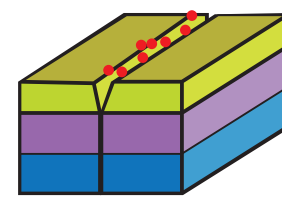
**Transform  
Fault  
Boundary**



**Subduction  
Zone  
Boundary**



**Continental  
Collision  
Boundary**



**Divergent  
Boundary**

2. When the plate upon which North America rests moved away from the European area, what type of plate movement probably took place?
3. Name one piece of evidence we can see that shows plates once moved on Earth.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.