**Tectonic Plates**

The surface of the Earth is constantly moving throughout the world. The movement is extremely slow and cannot be felt or noticed by people on the Earth. It moves between one to six inches every year. For the land to move a noticeable and significant amount takes millions of years. The movement of the Earth is due to tectonic plates.

The Earth's surface is made up of several layers, but the part of the land that is moving is called the **lithosphere**, which is the made up of the Earth's crust and a part of the upper mantle. This layer of the Earth moves in big pieces of land called **tectonic plates**. Some of the plates cover entire continents.

There are minor plates and major plates. Seven **major plates** include the African, Antarctic, Eurasian, North American, South American, India-Australian, and Pacific plates. Notice how each of the plates are somewhat aligned with the seven continents. The eight **minor plates** include the Arabian, Caribbean, Nazca, and Scotia plates. The plates can be imagined as pieces of a puzzle that make up the surfaces of the Earth.

The tectonic plates are around 62 miles thick, and there are two main types: oceanic and continental. The **oceanic** plates consist of crust below the oceans called *sima*, which is mostly made up of silicon and magnesium. The second type, **continental**, mostly includes the surfaces of the Earth below the continents and is called *sial*, which is mostly made up of silicon and aluminum.

Because there are different plates, there are also boundaries between them where most of the evidence of movement can be found. There are three main types of boundaries: convergent, divergent, and transform.

At the **convergent** boundary the plates push together, or one plate will move under another in a process called **subduction**. At these boundaries the formation of mountains and volcanoes take place over a long period of time. Earthquakes may also occur along convergent boundaries. An example of a convergent boundary is the deepest part of the ocean, the Mariana Trench, between the Pacific and Mariana plates. Subduction occurs as the Pacific plate moves under the Mariana plate. In addition, Mount Everest and the Himalayan Mountains were formed by the convergent boundary between the Indian and Eurasian plates.

A **divergent** boundary is the opposite of convergent as the plates get pushed apart. The area on the land where this occurs is called a **rift**. Magma from below the Earth's surface pushes up from the mantle and reaches the Earth's surface.

The tectonic plates slide past each other at a **transform** boundary. At these locations are faults and where earthquakes may occur as well. An example of a plate boundary in the United States is the San Andreas Fault located in California, which is a cause of many earthquakes in California. It is a transform boundary between the North American and Pacific Plates.

Finally, scientists are able to use GPS to track the movement of the tectonic plate movement throughout the world, which may be able to help accurately predict the occurrences of earthquakes someday.

In summary, plate tectonics involves the movement of pieces of the Earth's crust along several boundaries throughout the world. The movements of these plates are responsible for mountain formation, volcanoes, trenches, earthquakes and other geologic activity.

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1) Which of the following is the part of the Earth's crust that moves one to six inches per year?

**A:** Lithosphere

**B:** Continental

**C:** Oceanic

**D:** Tectonic

2) All of the following include the major plates of the Earth EXCEPT:

**A:** Caribbean, Scotia

**B:** African, Antarctic, Pacific

**C:** Eurasian, North American

**D:** India-Australian, South American

3) The oceanic and continental plates are both made up of which of the following?

**A:** Magnesium

**B:** Aluminum

**C:** Silicon

**D:** Iron

4) The formation of mountains and volcanoes take place along which type of plate boundary?

**A:** Transform

**B:** Divergent

**C:** Convergent

**D:** Oceanic

5) The formation of a rift may take place along which type of plate boundary?

**A:** Transform

**B:** Divergent

**C:** Convergent

**D:** Oceanic

6) The San Andreas Fault is an example of which type of plate boundary?

**A:** Transform

**B:** Divergent

**C:** Convergent

**D:** Oceanic

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