

## **Science Article:**

(Fifth Grade Science: Standard II)

Earth's surface is in a constant state of change. There are always mountains rising and canyons being carved. Some of these geological changes happen suddenly, such as the movement of the plates of the earth called an earthquake. Tension builds as huge slabs of rock rub against each other below the surface of the earth. Suddenly one of the slabs gives way and moves. This sliding happens along fault lines and can cause ripples in the Earth's surface. A fault is a crack in the crust of the earth.

Tsunamis happen suddenly, too. These giant ocean waves are actually caused by undersea earthquakes and can change the coastlines they strike in a matter of minutes. Landslides and floods also change the surface of the earth in a very sudden way.

Volcanoes occur when super heated rock called magma pushes its way through the earth's crust at its weakest points. Magma reaches the surface of the earth and is then called lava. A sudden eruption can throw lava, ash, gases, cinder and huge hot boulders into the air. When Mount St. Helens erupted in 1980, the force of the explosion knocked down trees that were 25 kilometers away. Some volcanic eruptions happen slowly. The Hawaiian Islands have been and are being formed by a slow volcanic eruption.

Weathering is a slow process that breaks down rock into smaller pieces. Weathering takes part in the creation of landforms such as arches and buttes. This process slowly breaks down materials and erosion carries the dirt and rocks away. Erosion happens through the strength of wind, water and ice.

Glaciers are slow-moving masses of ice that erode the earth's surface. As the glacier moves along, the ice carries rock and dirt. When the glacial flow slows down, it begins to drop the rocks and dirt. It is much the same as the deposition that happens when water that is carrying sediment slows down. The particles drop from the water and form a new shape for the Earth's terrain. At the same time that all these forces are moving the upper crust of the earth, there are forces pushing up under the crust. Uplift is the slow force that creates mountain ranges.