

## Earthquakes

By Frank Sampson

What is an earthquake? An **earthquake** is a vibration of the Earth. Sometimes they are called temblors, quakes, shakers or seismic activity.

The vibrations are caused by an abrupt shift of the crust's plates along a fracture in the Earth that is called a **fault**. These plates are made up of the outer shell of the Earth, called the lithosphere. The movement of the Earth's plates against each other puts stress on the **lithosphere**. In fact, the crust may first bend. Then, once pressure exceeds the strength of the rocks, it might break or snap to a new position.

Imagine holding a pencil horizontally. If you were to apply force to both ends of the pencil by pushing down on them, you would see the pencil bend. After enough force was applied, the pencil would break in the middle, releasing the stress you had put on it. That is similar to the way the Earth's crust acts. Sometimes stress is so great it can cause huge vibration waves that we call **seismic waves**. These seismic waves are the movement we feel during earthquakes.

Surprisingly enough, earthquakes can be measured. One type of measurement is the Richter scale. The measurements on the Richter scale measure the magnitude or strength of the vibration of the waves and rates them from one to ten. An earthquake that measures below 3.5 on the scale is usually not felt but humans, just by machines. Earthquakes over 5.0 on the scale can cause damage to man-made structures. A magnitude 6.0 or above can be extremely destructive.

