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Scientists study earthquakes to learn more about the Earth.

An earthquake is a movement or vibration in Earth caused by the release of stored energy in the Earth's outer layer.

Scientists use an instrument called a seismograph to measure seismic waves.

Seismic waves are vibrations caused by rocks moving and breaking along faults.

Seismic Waves

- I. Primary Waves
 - A. called P waves
 - B. fastest waves
 - C. first to arrive at a distant point
 - D. travel through solids, liquids, and gases
- II. Secondary Waves
 - A. called S waves
 - B. travel slower than P waves
 - C. arrive later at a distant point
 - D. travel through solids only
- III. Surface Waves
 - A. called L waves (long waves)
 - B. slowest waves
 - C. felt at the surface
 - D. cause the damage

Students must name and label the layers of the Earth:

Earth's Structure

I. Crust

- A. Earth's outer most layer
- B. thinnest layer
- C. solid rock
- D. deeper under continents than oceans
- E. we live on it!

II. Mantle

- A. thickest layer
- B. layer of rock lying below the crust
- C. rocks move or flow due to pressure and high temperatures
- D. allows tectonic plates to slowly move

III. Outer Core

- A. totally liquid
- B. made of melted iron
- C. inner core floats in this layer

IV. Inner Core

- A. solid sphere
- B. center of the Earth
- C. Spins at a different rate than the rest of the Earth