

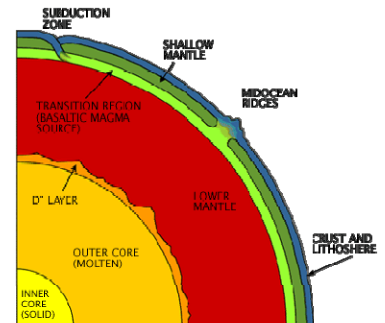


CAPTAIN CURIOSITY™ GUIDE TO THE UNIVERSE

Topic: EARTHQUAKES

EVER WONDER WHAT THE EARTH IS MADE OF? To understand earthquakes, you must

first understand the Earth's layers. The innermost layer is the core; it is believed to be made up of iron and nickel. The core is surrounded by the mantle, which is made of magma (molten rock). Next to the mantle is a thin outside crust; this is the layer we live on.

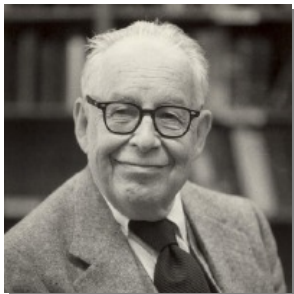


EVER WONDER WHETHER THE EARTH'S CRUST MOVES?

The Earth's crust is broken into several major plates, called "tectonic plates," that float on the layer of magma underneath. These plates are usually very stable, but sometimes they bump or slide past each other, releasing a huge amount of energy called "seismic waves." These waves cause the Earth all around that area to move and shake. This is what we call an earthquake. To see where earthquakes have happened in the past few days, visit the USGS website at <http://earthquake.usgs.gov/earthquakes/>.

EVER WONDER WHAT A FAULT LINE IS? The space between moving plates is called a "fault line." For example, the San Andreas Fault in California is the space between the North American Plate and the Pacific Plate. The huge earthquake of 1906 happened when those two plates moved horizontally past each other more than 21 feet!

EVER HOW EARTHQUAKES ARE MEASURED? Earthquakes are measured on the Richter Scale. The higher the number, the stronger the earthquake. The strongest earthquake ever recorded was a 9.5; it happened in Chile in 1960.



EVER WONDER WHO INVENTED THE RICHTER SCALE?

Mr. Charles F. Richter, Ph.D. (1900-1985). When Dr. Richter was only 6 years old, there were three major earthquakes in the world. Though he did not experience them first hand, they appear to have had a huge effect on him. He worked very hard in school and eventually earned a Ph.D. in theoretical physics from Cal Tech. He devoted the rest of his life to studying the movement of the Earth's surface. He even had a seismograph installed in his living room so that he could monitor earthquakes from home. He also learned six other languages so that he could study other scientist's notes without translation!

YOU CAN DO IT! Materials: small building blocks, tray. Procedure: Build a building on your tray. Shake the tray hard and see what happens to the building. Can you build a building that will survive an earthquake? Do tall buildings fall over more easily than lower buildings? How about skinny buildings vs. wide buildings?