

## explainity explains: Earthquakes

Earthquakes are among the most common natural disasters in the world. From one second to the next, the ground starts to shake, sometimes destroying entire cities.

But what exactly makes the Earth quake? Let's rewind.

First, we should mention that the Earth's crust, the top layer of the Earth is made up of seven large and many small tectonic plates.

Under the Earth's crust, there's the liquid mantle. Due to "convection currents" in the Earth's mantle, the plates begin to move and float like sheets of ice on top of the Earth.

They move a few inches each year – either away from each other, past each other or towards each other and collide. The resulting friction creates enormous pressure. If this pressure grows too great, the tension suddenly releases with a huge jolt, and the Earth shakes.

This mostly happens along the edges of tectonic plates, like off the Pacific coast of Japan, where four plates meet. With each tremor, destructive forces are released, spreading out like waves from the hypocenter. Right above, on the Earth's surface is the epicenter. This is usually where the worst damage occurs.

The strength of an earthquake is measured with a seismograph. Using the Richter scale, the tremor is then given a level from one to ten. From level five, buildings can be damaged. Anything beyond that has huge impacts on the safety of people, homes and entire regions.

So far, we've been talking about "tectonic earthquakes".

But there are also earthquakes caused by volcanic eruptions; collapse earthquakes, when underground caverns collapse, and extraction, drilling and mining earthquakes induced by humans.

Earthquakes happen several thousand times a day all over the earth. But not all tremors can be felt. Some are so weak that they can only be detected by a seismograph.

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