

What causes an earthquake?

Earthquakes are events where the ground shakes. They are a natural part of the environment, but earthquakes can be incredibly destructive. Most earthquakes are small, although the most powerful tremors can kill thousands of people and flatten towns and cities in minutes.

Earth's outer shell (known as the crust) is made up of huge slabs of rock called tectonic plates. These plates are constantly moving because they float on a layer of molten rock. Fortunately, they don't move fast. Geologists estimate that the fastest plate might shift 15cm a year.

Where two tectonic plates meet is called a fault line. These faults are where most of the world's earthquakes occur. As they move, the plates constantly scrape, bump and drag alongside each other. Sometimes, the tectonic plates become locked together there is a build up of tension, which causes the rock to distort.

If the tension between two plates becomes too great, then a sudden break or rupture can happen at the fault line. This rupture releases energy in the form of powerful vibrations called shockwaves, which cause earthquakes. The point above where the two plates collide is called the epicentre.

The strength of earthquakes is measured using a scale called the Richter scale (named after its inventor, Charles Richter). The machine used to measure earthquakes is called a seismograph.