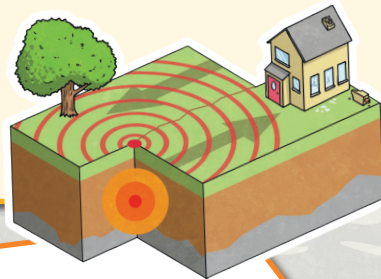


Earthquakes

An earthquake is when the Earth's surface shakes intensely because of movements beneath the crust. There are about 20,000 earthquakes a year globally.

Causes

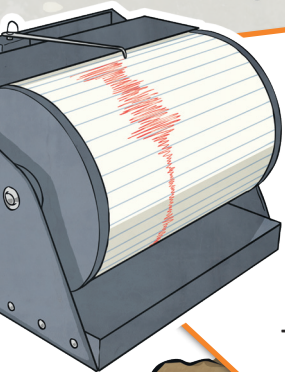
The Earth's crust and the top of the mantle are split into pieces called tectonic plates. They are always moving, causing faults or areas of stress to form. Most earthquakes happen when there is a movement at a plate boundary. Convergent boundaries, where plates push together, cause stronger earthquakes than divergent boundaries, where plates move apart.



Measuring Earthquakes

Seismometers are instruments that measure vibrations caused by seismic waves. The readings look like a zigzag line; larger zigzags mean a larger earthquake.

A scale like the moment magnitude scale is used to report its size. The larger the number, the more powerful the earthquake.



There are 200 to 300 earthquakes a year in the United Kingdom and most are so small people don't notice them.

Precautions

Not all earthquakes are noticeable but others can be devastating. They can cause buildings to collapse, cracks in roads and bridges, landslides and tsunamis.

Measures to help keep people safe include:

- global networks of seismometers to detect tremors quickly;
- alerts sent to phones with warnings and advice;
- special ways of constructing buildings;
- lessons in school about what to do in an earthquake.

Locations

Earthquakes can occur anywhere in the world but some places experience more than others. About 90 per cent of earthquakes happen within the Ring of Fire, a horseshoe-shaped area of the Pacific Ocean. Countries here include Japan and Indonesia.

Scientists have been working on a system which uses sensors in smartphones to help detect seismic waves leading to faster detection.