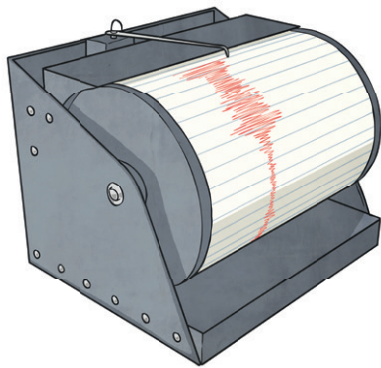


# Earthquakes

## The Earth's Crust

The Earth's crust and the top of the mantle have about twenty tectonic plates, which are like jigsaw puzzle pieces covering the Earth. These plates are always moving and bumping into each other. We call the edges of the plates 'plate boundaries', which are made up of faults. These faults are where most of the world's earthquakes occur. As the plates move, the edges get stuck because they are not smooth, but the rest of the plate keeps moving. When the force is too much, it slips and bumps and that causes an earthquake.



## Seismograph

A seismograph (say: size-mo-graf) is a special piece of equipment that records earthquakes. Seismometers are securely fastened to the Earth, so when the ground starts to shake, the instrument's case moves too. What doesn't move is a weight that hangs on a string inside the case. When there is an earthquake, the case shakes with the ground but the weight does not, and it draws a line to show how much the ground shook. Scientists use seismograms (graphs produced by the seismograph) to measure how big each earthquake is.

## Interesting Fact

Six Italian scientists were convicted of manslaughter (killing someone without planning or being hateful) and sent to prison for not predicting (knowing it was coming and warning people) the 2009 L'Aquila earthquake in which 309 people died. They argued against their cases and won, so were eventually not sent to prison.

## You could try to find out:

- 1 How earthquakes are measured.
- 2 How easy they are to predict.
- 3 About other cases where prison sentences have been handed out in unusual circumstances.
- 4 How you go about arguing a decision made by a court.

# Questions About Earthquakes

**1. Which layer of the Earth do the tectonic plates make up and how many are there?**

They make up...

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**2. What are plate boundaries?**

Plate boundaries are...

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**3. Where in the world do earthquakes take place?**

Earthquakes take place...

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**4. Describe what causes earthquakes.**

Earthquakes are caused by...

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**5. Which part of the seismograph moves? The case or the weight on a string?**

The part of the seismograph that moves is...

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# Questions About Earthquakes

## Answers

**1. Which layer of the Earth do the tectonic plates make up and how many are there?**

They make up the Earth's crust and there are about twenty.

**2. What are plate boundaries?**

Plate boundaries are the edges of the Earth's tectonic plates.

**3. Where in the world do earthquakes take place?**

Any answer that suggests: Earthquakes take place within faults / areas where the plate boundaries meet.

**4. Describe what causes earthquakes.**

Any answer that suggests: Earthquakes are caused by the plates rubbing against each other and getting stuck before coming free with a large force/jolt.

**5. Which part of the seismograph moves? The case or the weight on a string?**

The part of the seismograph that moves is the case.