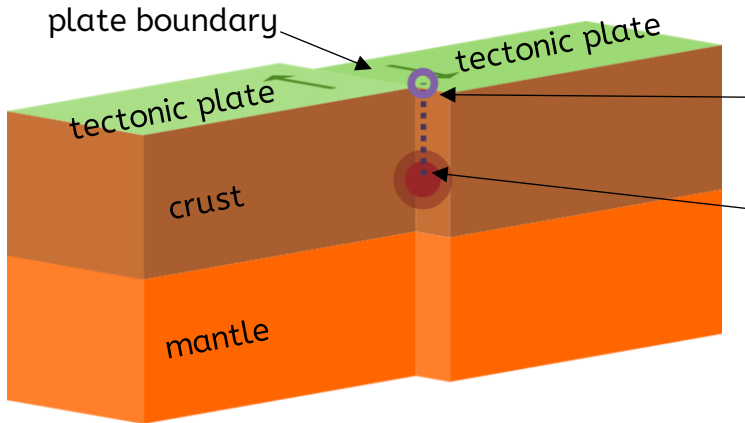


# Earthquakes and human settlements

## What is an earthquake?

An **earthquake** is the sudden shaking of a part of the Earth's surface. Major earthquakes are usually caused by friction or pressure at **plate boundaries**. However, minor earthquakes can occur anywhere.

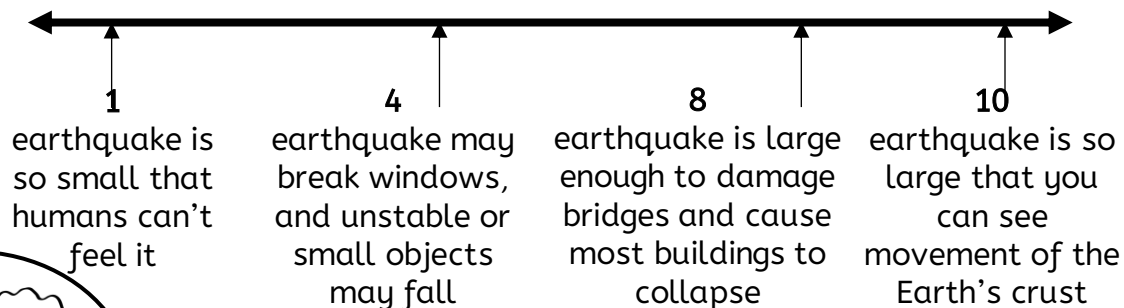


The place on the Earth's surface directly above the **focus** is called the **epicentre**.

The point in the Earth's crust where the earthquake begins is called the **focus**.

## How do we measure earthquakes?

The **magnitude** of an earthquake is a measure of how much energy the earthquake releases. Magnitude is measured on the Moment Magnitude Scale, which goes from 1 to 10.



## HICs, MICs and LICs

People in all countries around the world have different **incomes** (how much money is earned, usually in a year).

- Countries where people generally have a high income are called **high-income countries (HICs)**.
- Countries where people generally have a low income are called **low-income countries (LICs)**.

HICs and LICs exist in all continents across the world.

Not every person in an HIC has a high income, and not every person in an LIC has a low income – it is an average.

## Case studies

**Haiti**, an LIC in the Caribbean (North America), experienced a magnitude 7.0 earthquake in January 2010.

**Japan**, an HIC and island country in Asia, experienced a magnitude 9.1 earthquake in March 2011.

In both countries, the earthquakes caused many injuries, deaths and destruction of buildings and roads. In Japan, a **tsunami** (a huge wave caused by the earthquake) hit the city of Sendai and caused a huge amount of damage.

In both countries, rescue responses were immediate. However, in Japan (an HIC), the rebuilding of its cities and homes happened much more quickly than in Haiti (an LIC). It relied less on aid from other countries.

Japan can also afford to make buildings more earthquake proof, which can be very expensive.