Factsheet: Earthquakes

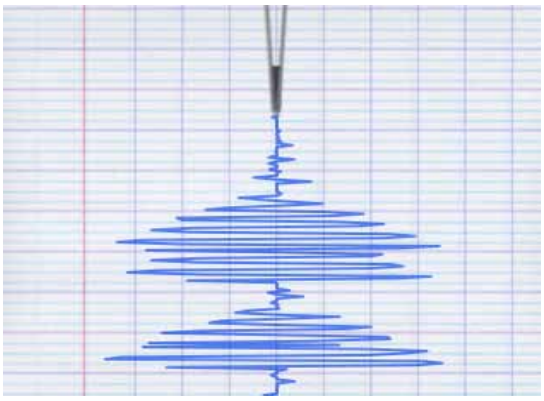
Key Facts

An earthquake is the sudden, rapid shaking or rolling of the Earth. Earthquakes happen when rocks break or slip along fault lines in the Earth's crust, releasing energy that causes the ground to move.

The point inside the crust where the pressure is released is called the focus. The point on the Earth's surface above the focus is called the epicentre.

Earthquake energy is released in seismic waves. These waves spread out from the focus.

The waves are felt most strongly at the epicentre, becoming less strong as they travel further away. The most severe damage caused by an earthquake will happen close to the epicentre.



The power of an earthquake is measured using a **seismometer**. A seismometer detects the vibrations caused by an earthquake. It plots these vibrations on a **seismograph**. The strength, or magnitude, of an earthquake is measured using the **Richter scale**. The Richter scale is numbered 0-10..

> Earthquakes cannot be predicted with accuracy.

> Earthquakes may trigger other hazards, such as flooding, landslides, fires, or avalanches. A large earthquake in the ocean floor can produce tsunami waves.

> The magnitude of an earthquake is a measured value of the earthquake size. The magnitude is the same no matter where you are or how strong the shaking was in various locations. Intensity is a measure of the shaking created by the earthquake, and this value does vary with location.

Positive effects of an eruption

> The dramatic scenery created by volcanic eruptions attracts tourists. This brings income to an area.

> The lava and ash deposited during an eruption breaks down to provide valuable nutrients for the soil. This creates very fertile soil which is good for agriculture

> The high level of heat and activity inside the Earth, close to a volcano, can provide opportunities for generating geothermal energy.

Negative effects of an eruption

> Many lives can be lost as a result of a volcanic eruption.

> If the ash and mud from a volcanic eruption mix with rain water or melting snow, fast moving mudflows are created. These flows are called lahars.

> Lava flows and lahars can destroy settlements and clear areas of woodland or agriculture. Human and natural landscapes can be destroyed and changed forever.