

WALT: understand what an Earthquake is.

WILF:

- Identify where they occur and how.
- Explain the role of tectonic plates.



What is an Earthquake?

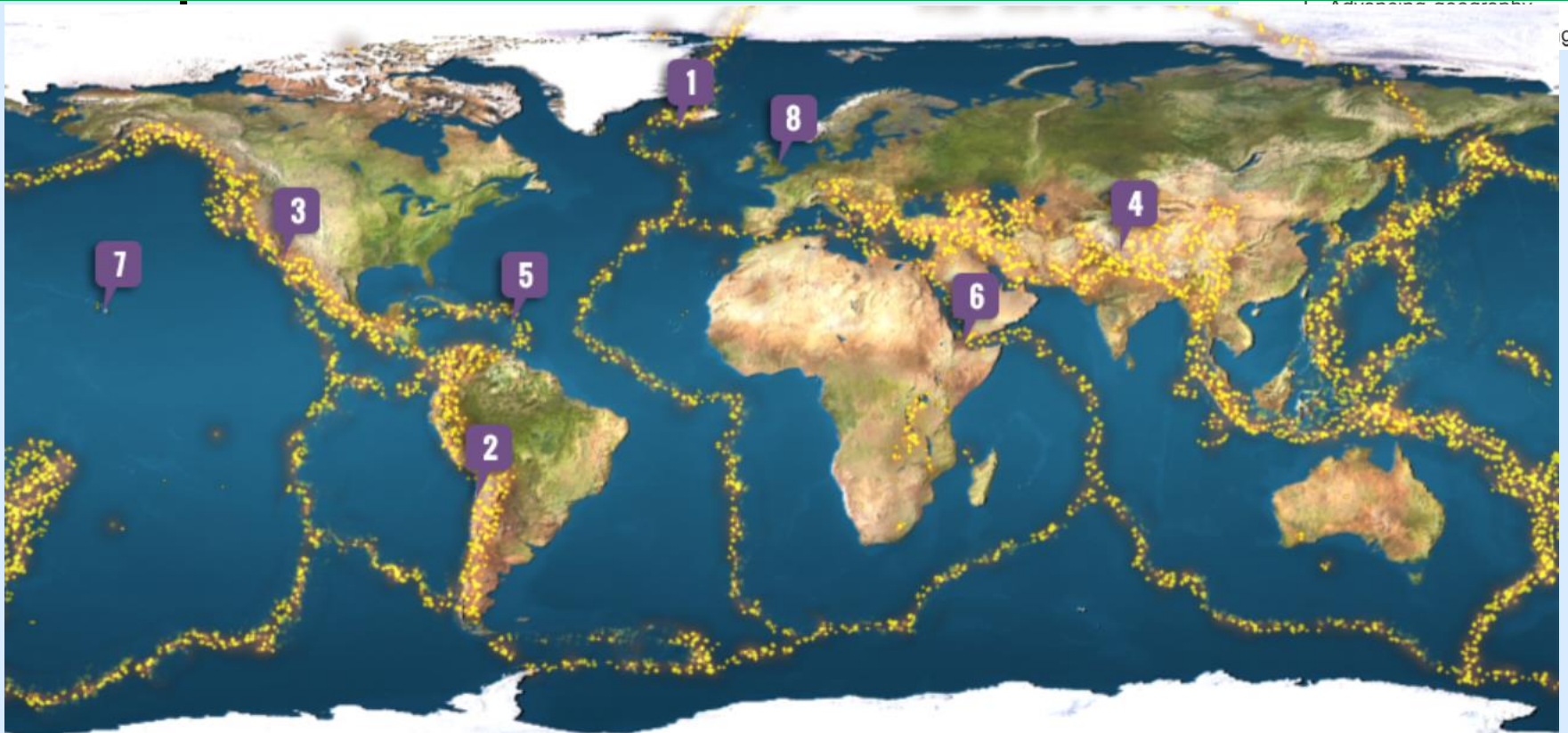
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Click the image to watch the video.

Earthquakes mostly occur on plate boundaries.
Here's a map, the yellow dots are earthquake areas.



SHOW OR HIDE THE FOLLOWING FEATURES ON THE MAP USING THE CHECKBOXES BELOW

VOLCANO
DISTRIBUTION



EARTHQUAKE
DISTRIBUTION



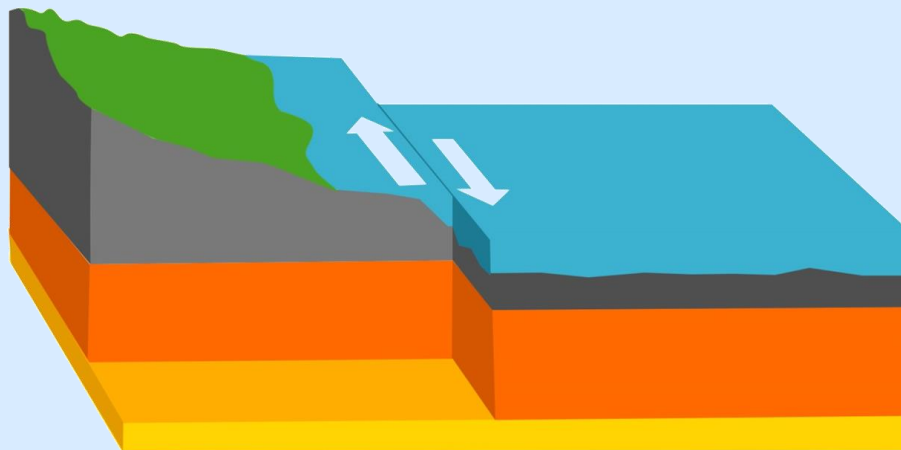
TECTONIC
PLATES



Did you know? There's an earthquake somewhere every 30 seconds! Some small and barely detectable, some large.



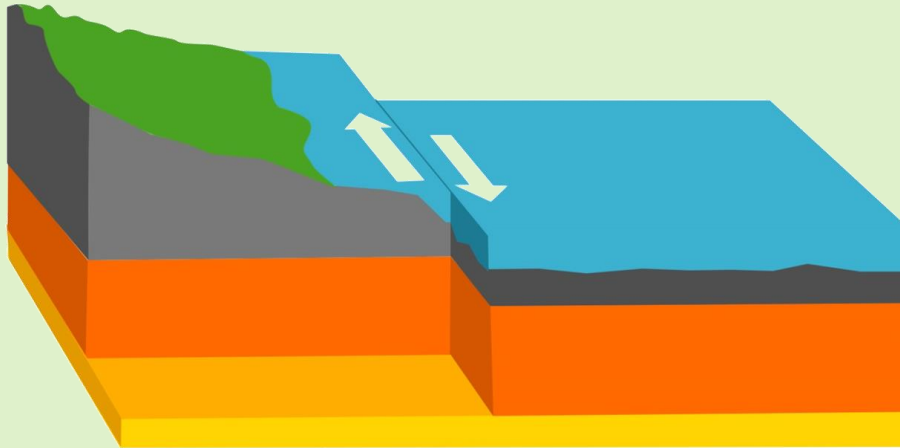
There are two types of plate boundary: composite plate boundaries and transform plate boundaries. Whilst volcanoes often occur at composite plate boundaries, earthquakes are more common at transform plate boundaries.



Transform plate boundary

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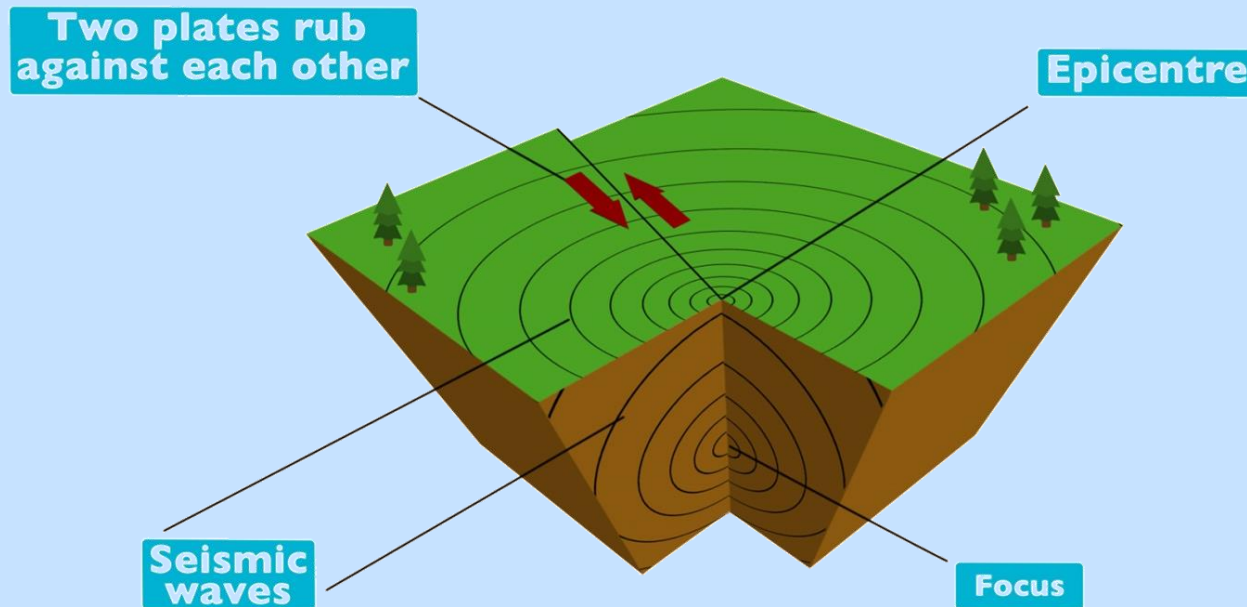


Transform plate boundaries are when the plates move past each other. The friction can cause them to stick, and when they come unstuck, it's often with a jolt, causing an earthquake. To demonstrate this, place your two hands palm to palm, pushing into each other. Slowly try to pull them in opposite directions. Can you feel the friction? When they go their separate ways, can you feel the fast release? This is what happens to the plates.

The structure of an earthquake

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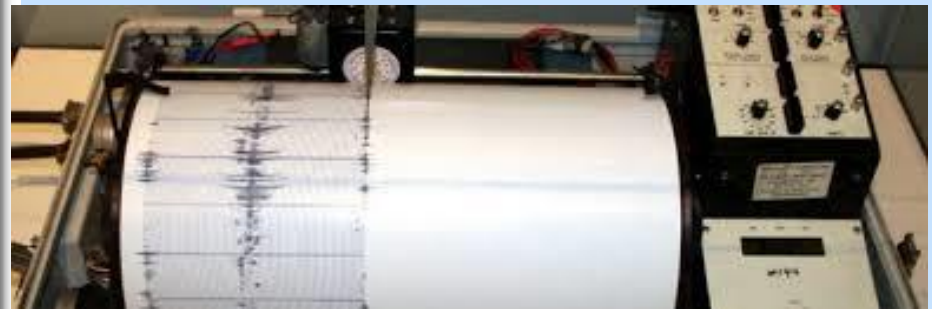
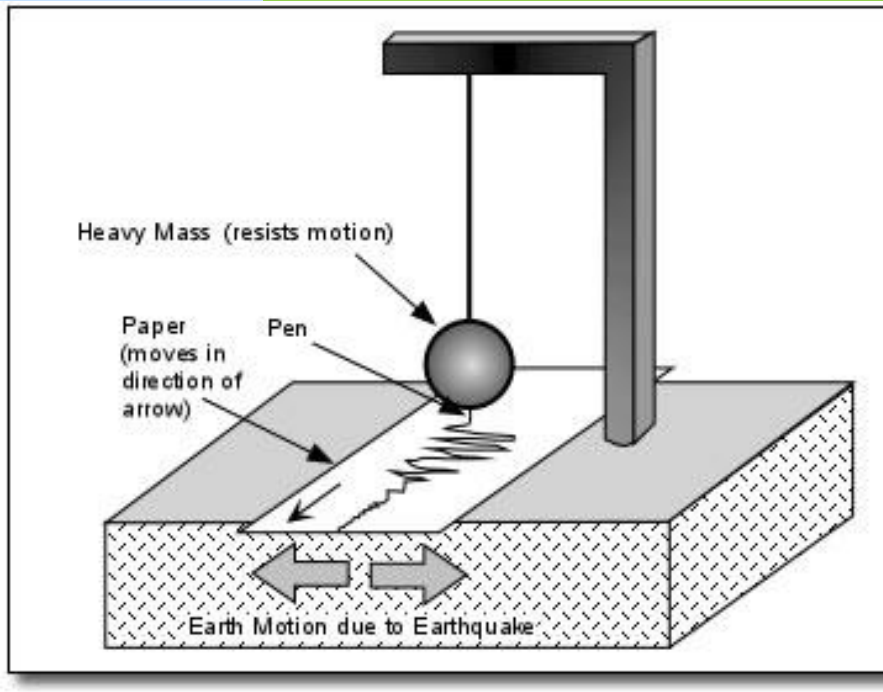


An earthquake starts deep underground at the focus. It is triggered by tectonic plates jolting, then sends **seismic waves** in all directions. The intensity of these reduces with distance - the **epicentre** is where the impact is greatest. If this happens under the sea, it can cause a Tsunami (huge wave).

How do we measure earthquakes?

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Earthquakes are measured on seismographs.

These draw waves during an earthquake by remaining still whilst the main machine shakes in the quake. There are a few scales this is interpreted on, the most famous being the **Richter scale**.

The scale goes from 0-9. 5 on the scale will crack walls and make bricks fall. 9 causes widescale destruction.

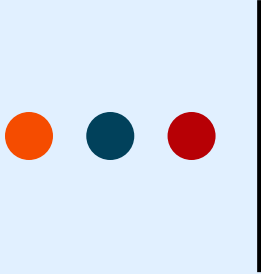
San Andreas Fault - this boundary between two plates and is the most active in the world. They're 1287km long. They move right 6cm a year, causing small earthquakes there every year, and large ones every 100 -150 years. In 1989 there was an earthquake measuring 6.9 on the Richter scale.

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Earthquake safety advice:

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During an Earthquake

1. **Drop, Cover, and Hold On.**

If you're inside, drop to the ground and take cover under something sturdy like a desk or table. With one hand hold on to the object and with your other arm protect your head and neck. If you don't have anything sturdy to take cover under, crouch down next to an interior wall. Stay indoors until the shaking stops and you're sure it's safe to exit.

2. **Find an open spot.**

If you're outside, the safest place in an earthquake is a clear spot away from buildings, trees, streetlights and power lines. Drop to the ground and stay there until the shaking stops.

3. **If in a vehicle, stop.**

Pull over to a clear location, stop and stay there with your seatbelt fastened until the shaking stops.

(<https://www.savethechildren.org/>)

Optional, recommended - 5 minute video.

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Click the picture for a video of more information by NatGeo (warning: contains footage of earthquakes):



Your activity:

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Please create a leaflet or flyer about Earthquakes. Explain what Earthquakes are and how they are formed. You may want to include safety instructions for during an Earthquake.

Example diagram:

