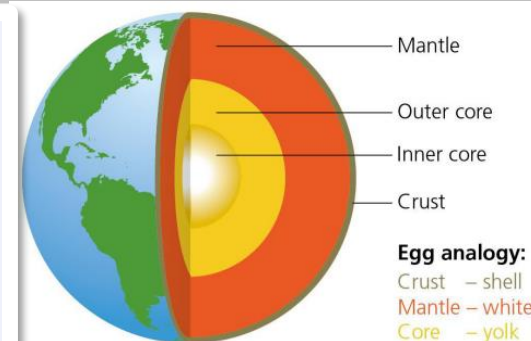
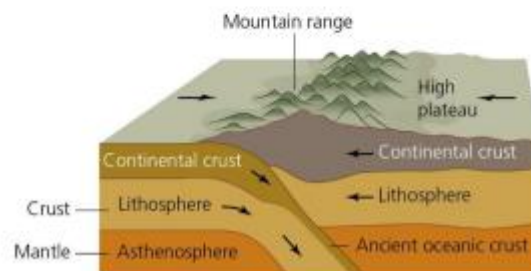
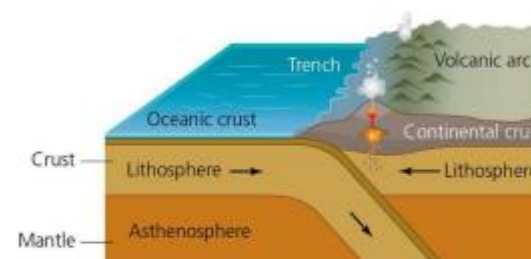


### Moss Park Key Knowledge

1. Earthquakes mostly occur along tectonic plate boundaries.
2. The core, mantle and crust are the three major layers of the Earth
3. Volcanoes, earthquakes and mountain ranges are formed along tectonic plate boundaries
4. An active volcano is a volcano that has erupted in the last 10,000 years.
5. The Pacific Ring of Fire is a ring of plate boundaries circling the Pacific Ocean that is tectonically very active
6. Earthquake in Japan 2011 measured 9.0 on the Richter Scale where 18,500 people died



The rigid outermost shell of the Earth (called the *crust*) is broken up into seven or eight major interlocking tectonic plates, and numerous smaller plates. It's like an egg with a cracked shell. With the cracked shell representing the thin crust, the white represents the hot magma of the semi-molten mantle, and the yolk represents the extremely hot **core**. The tectonic plates move (a few centimetres a year) towards, away from or sliding past each other. This results in volcanoes and earthquakes at their boundaries – the cracks in the egg's shell.



### The middle three diagrams show convergent boundaries:

- a) When *ocean plates* move towards each other (converge), an arc of islands with volcanoes is formed. The Philippines, Java and Sumatra are examples, but there are lots of others around the Pacific Ocean.
- b) When an *ocean* and a *land (continental)* plate move towards each other, mountains with volcanoes are formed. The Andes in South America are an example.
- c) When *two land (continental)* plates move towards each other, mountains are formed. The Himalayan Mountains are an example.

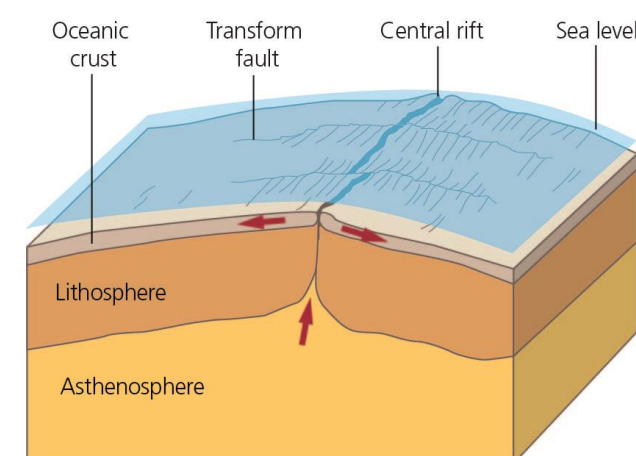
**Did you know?** The Richter scale to measure earthquake magnitude is logarithmic, which means that each one-point increase on the scale represents a tenfold increase in the power of the earthquake.

### 5 words to remember

**core:** centre of the Earth; the extremely hot inner core is solid and the outer core is molten  
**crust:** outer layer of the Earth, which may be continental or oceanic, and consists of solid rock broken into tectonic plates  
**mantle:** the layer of the Earth beneath the surface, which is semi-molten and very hot  
**molten:** melted

Make sure you can define all three types of plate boundary: divergent, convergent and transform. Write a simple definition of each.

The final type of plate boundary is a **transform** boundary. This is where crust is neither produced nor destroyed as the plates slide horizontally past each other.



This diagram at the bottom shows *divergent plate boundaries* – where new crust is generated as the plates pull away from each other. Convergent boundaries are where crust is destroyed as one plate dives under another, and transform boundaries are where crust is neither produced nor destroyed as the plates slide horizontally past each other.