



OUR ACTIVE PLANET

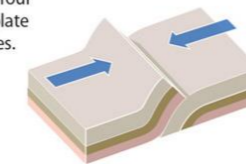
TECTONIC PLATES

World's Deadliest Natural Disasters in the last 100 years								
Year	1920	1931	1935	1970	1975	1976	2004	2010
Disaster	Haiti Earthquake	China Floods	Yangtze River Flood (China)	Bhola Cyclone (Bangladesh)	Typhoon Nina (China)	Tangshan Earthquake	Indian Ocean Earthquake and Tsunami	Haiti Earthquake
Death Toll	160,000	1-4 million	145,000	250,000 – 500,000	229,000	242,000 – 655,000	280,000	160,000

Earth's outermost layer is fragmented into plates that are moving to one another as they sit on top of the hot, semifluid material beneath them.

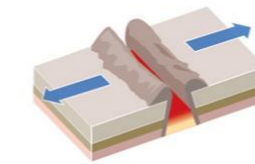
Where plates meet

There are four types of plate boundaries.



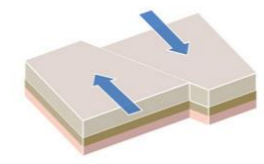
1. Convergent boundary

Occurs where two plates slowly slide towards each other, usually forming a subduction zone



2. Divergent boundary

Occurs where plates are moving apart, as magma pushes up from the mantle, creating new crust

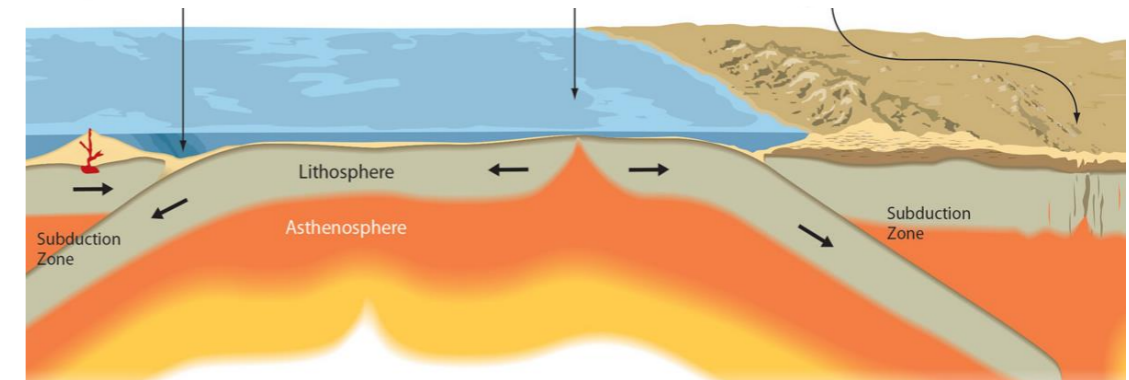


3. Transform Boundary

Occurs where plates slide or grind past each other

4. Plate boundary zone

Usually occurs along a broad belt where the interactions are unclear, and the boundaries are not well defined



INSIDE THE EARTH

CRUST - At around 22°C, the thinnest layer of the Earth is solid. The layer between the ocean bed is about 8km thick and is mainly made from a rock called basalt. This layer is divided up into segments called tectonic plates. These are moving very slowly. The layer that makes up the land ranges from 8km to 70km thick and is mostly made from a rock called granite.

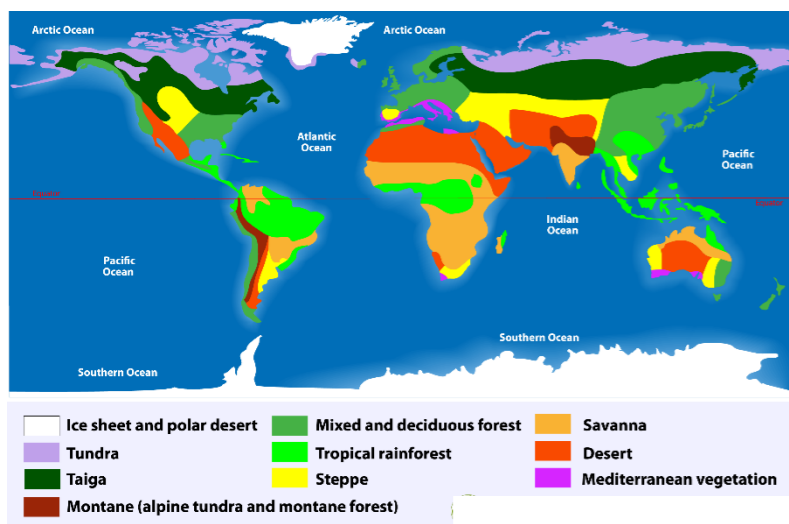
MANTLE - It's temperature ranges from 1,400°C to 3,000°C. It is made up of oxygen, iron, silicon magnesium and aluminium. The majority of this layer is molten and makes up 80% of the Earth's structure.

CORE - A huge solid metal ball of iron and nickel measuring 2,500km wide.

OUTER CORE - Consists of iron, nickel, sulphur and oxygen. This liquid layer is found 5,100km deep. It is the movement of metals in this layer that creates our Earth's magnetic field.

INNER CORE - At 5,000°C to 6,000°C, this part of the Earth is 6,000 times hotter than our atmosphere.

WORLD BIOMES



- Ice sheet and polar desert
- Tundra
- Taiga
- Montane (alpine tundra and montane forest)
- Mixed and deciduous forest
- Tropical rainforest
- Steppe
- Savanna
- Desert
- Mediterranean vegetation

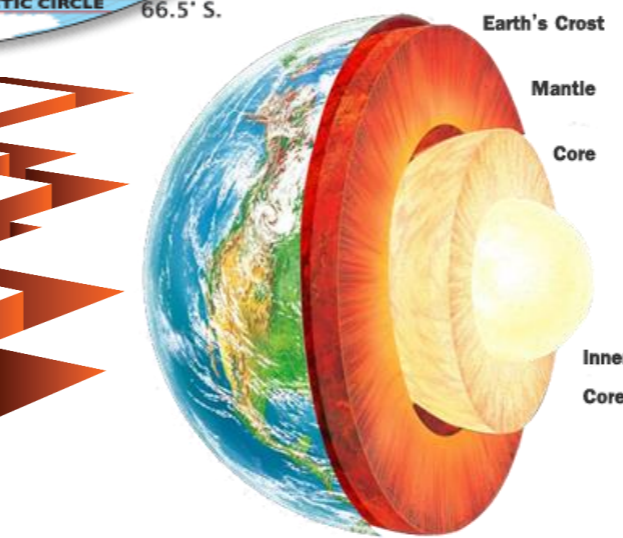
BIOMES are areas of our planet with similar climates, landscapes, animals and plants. What lives in each biome depends on

- How warm or cold it is
- How dry or wet it is
- How fertile the soil is

The animals in a biome depend upon plants for food. The plants in a biome often also depend upon the animals for spreading pollen and seeds so that new plants can grow. So both plants and animals rely on each other to stay alive.

Key Vocabulary

Tropical Storms - Hurricane - Cyclone - Typhoon	A tropical storm is a large rotating storm with high speed winds that forms over warm water in tropical areas. Tropical storms have sustained winds of at least 74 miles per hour. Hurricanes, cyclones and typhoons are all tropical storms. They are given different names depending on where they appear. Hurricanes form over North Atlantic Ocean and Northeast Pacific. Cyclones form over the South Pacific and Indian Ocean. Typhoons form over the Northwest Pacific.	Wildfire/Forest Fires	A wildfire is a fire that rages out of control in the wilderness, like a forest or countryside. Wildfires often begin unnoticed. These fires are usually triggered by lightning, extreme heat or accidents, such as campers or hikers that did not take care of their campfire properly. They spread quickly, igniting bushes, trees and homes.
Earthquake	Earthquakes occur when two large pieces of the Earth's crust suddenly slip. This causes shock waves to make the surface of the Earth shake in the form of an earthquake.	Drought	Wherever there is a shortage of rain over a long period of time, there is a drought. Drought affects plants, animals and people. It is a serious problem for farmers and for the people who depend on the crops they produce.
Tornado	A tornado is a violent rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of up to 300 mph. They can destroy large buildings, uproot trees and hurl vehicles hundreds of yards.	Avalanche	Technically, an avalanche is any amount of snow sliding down a mountainside. As an avalanche reaches nearer the bottom of the slope, it gains speed and power; this can cause even the smallest of snow slides to be a major disaster.
Volcanic Eruption	A volcano is a landform (usually a mountain) where molten rock erupts through the surface of a planet.	Landslide	Landslides take place when dirt, pebbles, rocks and boulders slide down a slope together. Sometimes these landslides are small, and hardly noticeable. Other times however, they can be substantial, involving the entire side of a mountain.
Tsunami	A tsunami is a large ocean wave usually caused by an underwater earthquake or a volcanic explosion. Tsunamis are NOT tidal waves. Tidal waves are caused by the forces of the moon, sun and planets upon the tides, as well as the wind as it moves over the water.	Flood	A flood happens when water covers land that is usually dry. A flash flood is a term we use to describe a flood that happens very quickly in low-lying land, and it's usually caused by very heavy rains.



VOLCANO STRUCTURE

A Cross Section of a Volcano

