Knowledge Organiser: Asia: Mountains, volcanoes, and earthquakes

Lesson One: What are the physical features of Asia?

Asia is the largest continent in the world. It is in the northern hemisphere.

Asia

In Asia there are:

- Five regions and 49 countries
- Different climate zones
- Many topographical features
- The Himalayas, which is the tallest mountain range in the world.

Physical Features

Topography

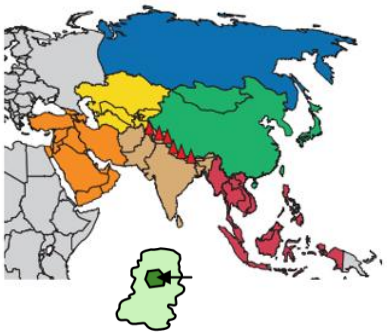
Himalayas

Lesson Two: What are the key human features of Asia?

The continent of Asia is the largest on Earth. Asia covers around 30 per cent of Earth's total land area. Because of the size of Asia, it is often divided into five regions:

Central Asia, East Asia, South Asia, South-East Asia, and Western Asia.

Asia is made up of 49 countries. Both India and China have a population of over a billion people.



Region

Human Features

Population

Lesson Three: What are some of the most significant borders in Asia?

A border is something that creates a boundary between geographical regions. Some borders are natural borders (mountain range or rivers). Other borders can be human-made (walls or fences).

Asia's natural borders are the:

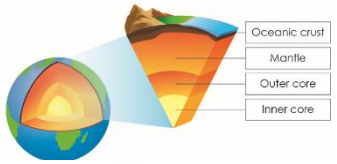
- Pacific Ocean
- Indian Ocean
- Arctic Ocean
- Black Sea
- Caspian Sea
- Ural Mountains
- Caucasus Mountains.

Natural border

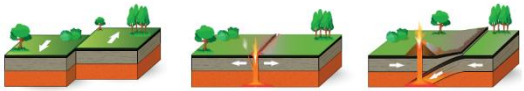
Human-made border

Lesson Four: What are tectonic plates?

The Earth is made up of four layers: inner core, outer core, mantle, and crust. The Earth's mantle is made up of large pieces called tectonic plates. Tectonic plates move and, when they meet, they collide, tear apart or slide against each other.



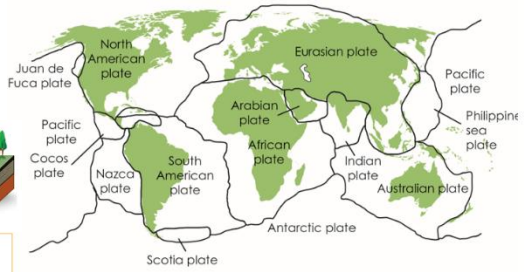
Tectonic plates



This is a conservative boundary.

This is a constructive boundary.

This is a destructive boundary.



Lesson Five: How are mountains formed?

Most geologists classify a mountain as a landform that rises at least 1,000 feet (300 metres) or more above its surrounding area. Mountains are most often formed by movement of the tectonic plates in the Earth's crust. The Himalayas are the tallest mountains in the world.

1. A **summit** or peak is the top of the mountain.
5. A **slope** is an area of ground increasing in height.
6. A foot is the bottom of the mountain.
4. A **valley** is an area of low land between mountains.
3. A treeline is the highest point forests are found.
7. A face is the 'side' of a mountain.
2. A snow line is where ice and snow cover the mountain all year.

Landform

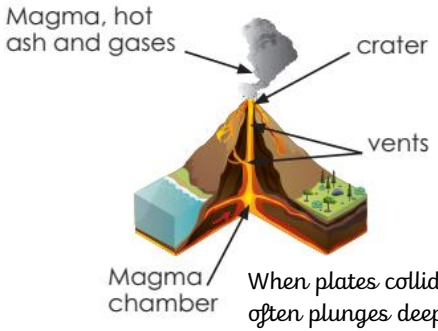
Summit

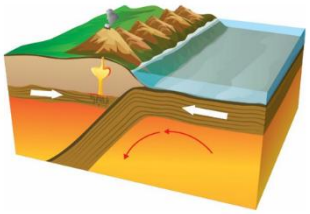
Valley

Slope

Lesson Six: How are volcanoes formed?

A volcano is an opening in Earth's crust that allows magma, hot ash, and gases to escape. Most volcanoes in the world form along the boundaries of Earth's tectonic plates.



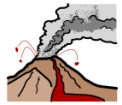


When plates collide, one often plunges deep below the other. This causes pressure to build up inside Earth, which pushes magma up through cracks or weaknesses in Earth's crust. When this pressure is released, magma explodes to the surface causing a volcanic eruption.

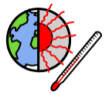
Lesson Seven: What happens when a volcano erupts?

Volcanic eruptions vary depending on the type of volcano and the different types of plate boundary they sit on. Eruptions can be catastrophic, damaging towns and farmland, and even taking lives. Volcanic eruptions can benefit the surrounding area as they create fertile ground.

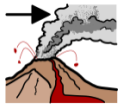
Dormant



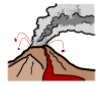
Erupt



Geothermal



Volcanic ash



Volcanic eruption

Lesson Eight: What is an earthquake?

Earthquakes

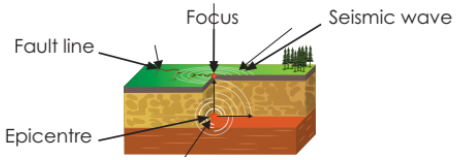
An earthquake is the shaking of Earth's crust as tectonic plates move at fault lines.

The earthquake starts from the focus.

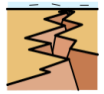
Seismic waves spread out from the focus.

Seismic waves feel less strong as you move from the epicentre.

An earthquake under the ocean can trigger a tsunami.



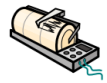
The magnitude (how powerful an earthquake is) is measured by a Moment Magnitude Scale.



Earthquake

Epicentre

Seismic waves



Seismograph

Lesson Nine: What happens when an earthquake strikes?

Depending on whether a country is rich or poor, the effects of an earthquake can differ. People need to prepare before, during, and after an earthquake if they can. To withstand the incredible forces of an earthquake, buildings have to absorb as much seismic energy as possible. Engineers aim to build structures that can 'wobble' when an earthquake strikes and not collapse.

Engineer

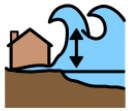
Seismic energy

Earthquake proof

Debris

Lesson Ten: What are the secondary consequences of a volcanic eruption or earthquake?

Secondary consequences of volcanic eruptions and earthquakes are indirect impacts that occur after the initial event, such as fires, landslides, tsunamis, disease outbreaks, transport disruption, and long-term economic losses.



Tsunami

Landslide