

MOUNTAINS

What is a mountain?

The dictionary defines a mountain as that which is 'higher and **steeper** than a hill'.

A mountain is a **landform** that rises high above the surrounding terrain in a limited area. They are made from **rocks** and earth.

Generally, mountains are higher than 600 metres. Those less than 600 metres are called **hills**.

What do mountains look like?

Mountains usually have steep, **sloping** sides and sharp or slightly rounded **ridges** and peaks. They can be rocky and barren. Some have trees growing on their sides and very high mountains have snow on their **peaks**.

Common features of mountains include the following:

- the **summit**, or the top of a mountain;
- the **slope**, or side of the mountain; and
- a very steep valley between young mountains, known as a **gorge**.



MOUNTAINS

Where are mountains found?

Mountains exist on every **continent** and even beneath our great oceans.

Did you know?

Some of the highest mountains are at the bottom of the sea. Hawaii is at the top of a **volcanic** mountain in the Pacific Ocean. More than half the mountain is below water.

The largest **range** of mountains is in the Atlantic Ocean. Mountains cover one-fifth of the earth's land surface, and occur in 75 percent of the world's countries.

What is a mountain range?

Mountain ranges are long chains or groups of mountains. Ranges are usually 1,000 or more miles long.

The **Rocky Mountains** and the **Himalayan Mountains** are examples of mountain ranges.



MOUNTAIN FORMATION

How are mountains formed?

Mountains are formed by slow but gigantic movements of the **earth's crust** (the outer layer of the Earth).

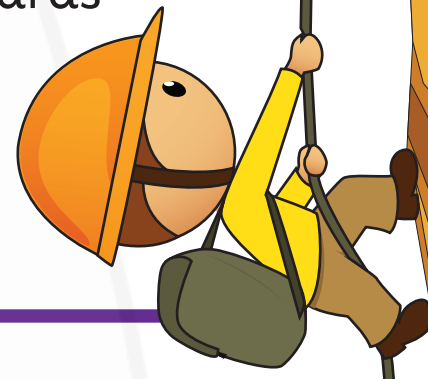
The Earth's crust is made up of 6 huge slabs called **plates**, which fit together like a jigsaw puzzle. When two slabs of the earth's crust smash into each other, the land can be pushed upwards, forming mountains.

Many of the greatest mountain **ranges** of the world have formed because of enormous **collisions** between continents.

Mountains form in different ways

Sometimes the crust has **folded** and buckled, sometimes it breaks into huge blocks. In both cases, great areas of land are lifted upwards to form mountains.

Other mountains are formed by the earth's crust rising into a dome or by **volcanic** activity when the crust cracks open.



TYPES OF MOUNTAINS

What different types of Mountains are there?

There are five basic kinds of mountains:

- Fold Mountains (Folded Mountains)
- Fault-block Mountains (Block Mountains)
- Dome Mountains
- Volcanic Mountains
- Plateau Mountains

These different types of mountain names not only distinguish the physical characteristics of the mountains, but also how they were formed.



FOLD MOUNTAINS

Fold mountains are the most common type of mountain. The world's largest mountain ranges are **fold** mountains.



Fold mountains are formed when two **plates** collide head on and their edges crumble, much the same way as a piece of paper folds when pushed together.

Examples of fold mountains include:

- Himalayan Mountains in Asia
- the Alps in Europe
- the Andes in South America
- the Rockies in North America
- the Urals in Russia



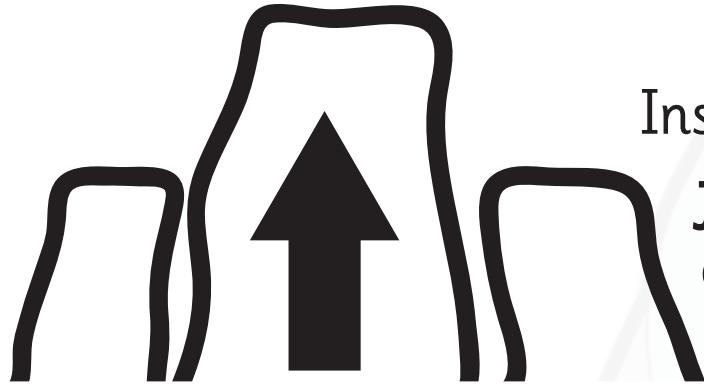
Himalayan Mountains in Asia

The **Himalayan Mountains** were formed when India crashed into Asia and pushed up the tallest mountain range on the continents.



FAULT-BLOCK MOUNTAINS

These mountains form when **faults** or cracks in the earth's crust force some materials or blocks of rock up and others down.



Instead of the earth folding over, the earth's crust **fractures** (pulls apart). It breaks up into blocks or chunks. Sometimes these blocks of rock move up and down, as they move apart and blocks of rock end up being stacked on one another.

Examples of fault-block mountains include:

- the Sierra Nevada mountains in North America
- the Harz Mountains in Germany



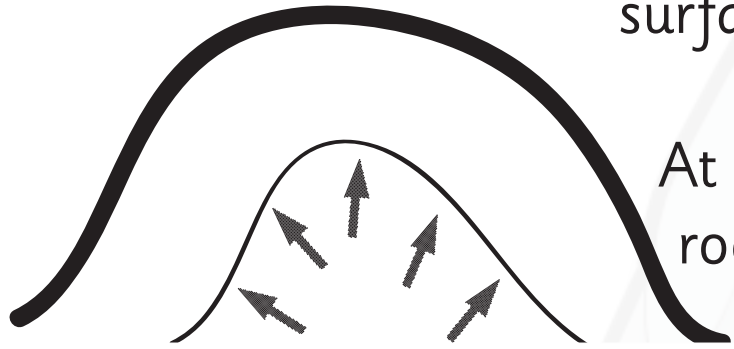
A fault-block mountain in Provo, Utah

Often fault-block mountains have a **steep** front side and a **sloping** back side.



DOME MOUNTAINS

Dome mountains are the result of a great amount of melted rock (**magma**) pushing its way up under the earth crust. Without actually **erupting** onto the surface, the magma pushes up overlaying rock layers.



At some point, the magma cools to form hardened rock. The uplifted area created by rising magma is called a **dome** because of looking like the top

half of a sphere (ball).

The rock layers over the hardened magma are **warped** upward to form the dome. But the rock layers of the surrounding area remain flat.



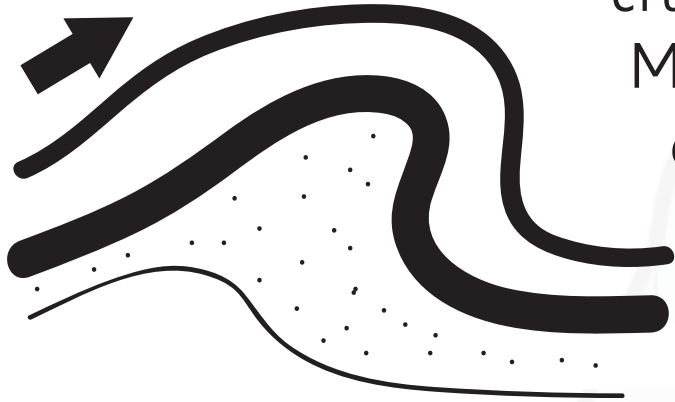
Yosemite National Park

As the dome is higher than its surroundings, **erosion** by wind and rain occurs from the top. This results in a circular mountain range. Domes that have been worn away in places form many separate peaks called **Dome Mountains**.



VOLCANIC MOUNTAINS

As the name suggests, volcanic mountains are formed by **volcanoes**. Volcanic Mountains are formed when molten rock (**magma**) deep within the earth, erupts, and piles upon the surface.



Magma is called **lava** when it breaks through the earth's crust.

When the **ash** and lava cools, it builds a cone of rock. Rock and lava pile up, layer on top of layer.

Examples of volcanic mountains include:

- Mount St. Helens in North America
- Mount Pinatubo in the Philippines
- Mount Kea and
- Mount Loa in Hawaii



Kanaga Volcanic Mountain,
Alaska



PLATEAU MOUNTAINS OR EROSION MOUNTAINS



Cheyenne, USA

Plateau mountains are not formed by internal activity. Instead, they are formed by **erosion**. Plateaus are large flat areas that have been pushed above sea level by forces within the Earth, or have been formed by layers of **lava**. The dictionary describes these as large areas of 'high levels' of flat land, over 600 meters above sea level.

Plateau mountains are often found near **folded mountains**. As years pass, streams and rivers erode valleys through the plateau, leaving mountains standing between the valleys.

