

Environment & Sustainability

How mountains are formed

The earth’s crust is made up of tectonic plates. Most of the major mountain ranges lay along the plate boundaries.

Most high mountains are ‘fold mountains’ where plates collide and one folds over the other, creating a peak

Other mountains are caused by volcanic activity – Ben Nevis and Yr Wyddfa (Snowdon) are volcanic mountains but the volcanoes have been extinct for many thousands of years.

There are 5 main types of mountains:



fold mountains



fault-line mountains



volcanic mountains



dome mountains



plateau mountains

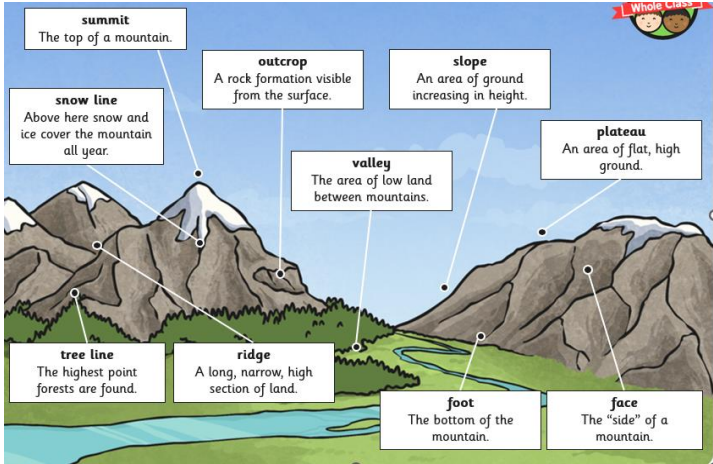


Diagram illustrating mountain features:

- summit**: The top of a mountain.
- slope**: An area of ground increasing in height.
- outcrop**: A rock formation visible from the surface.
- valley**: The area of low land between mountains.
- plateau**: An area of flat, high ground.
- ridge**: A long, narrow, high section of land.
- tree line**: The highest point forests are found.
- face**: The "side" of a mountain.
- foot**: The bottom of the mountain.
- snow line**: Above here snow and ice cover the mountain all year.

Being a Geographer

Reading tables

Mountain Peak	Range	Location	Height (metres)
Everest	Himalayas	Nepal, Asia	8,850m
K2	Karakoram	Pakistan/China border, Asia	8,612m
Kilimanjaro	Eastern Rift Mountains	Tanzania	5,895m
Ben Nevis	Grampian Mountains	North West Highlands, UK	1,345m
Scafell Pike	Southern Fells	Cumbria, UK	978m
Yr Wyddfa (Snowdon)	Snowdonia	Wales	1,085m

United Kingdom

Ben Nevis as highest peak in UK. It was formed by volcanic activity, but the volcano is extinct and has shown no signs of activity for over 1,000,000 years.

Ben Nevis Key facts:

- *1345m high
- *150,000 people climb the peak each year.
- *60,000 visit the waterfalls
- *Part of the Grampian mountain range.
- *The number of visitors has a damaging effect on the mountain – litter, erosion.
- *Popular with visitors because it is accessible and can be climbed in a day.

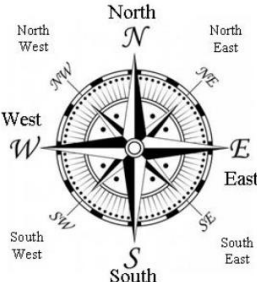
Europe & the rest of the world

Mount Everest is part of the Himalayas which cover an area around north India, Nepal, Bhutan, Pakistan and China. Everest is the most famous mountain but there are other peaks which are very high as well.

Everest key facts:

- * 8848m high (highest in the world)
- *it was first climbed in 1953 by Edmund Hillary and Tenzing Norgay.
- *over 800 people a year attempt the climb – many don’t make it to the summit and over 200 have died on the mountain since 1953.
- *In 1934 a major earthquake destroyed the monastery in the village below Everest.
- *In 2015 there was a 7.8 magnitude earthquake that killed 9000 people and made many homeless.
- *Life for people dependent on the visitors became even harder because visitor numbers dropped by 90% for the next two years.

Compass Points



Economy & Trade

Visitors to places like Ben Nevis and the Himalayas are important ways for people to make money (jobs etc) but this is another example where it can be difficult to build the economy (make money) and protect the environment at the same time.

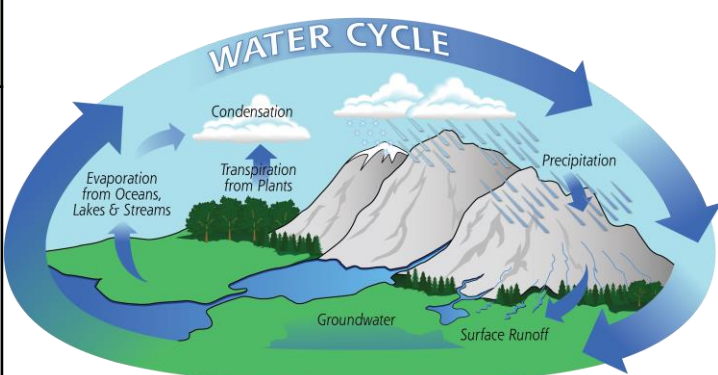
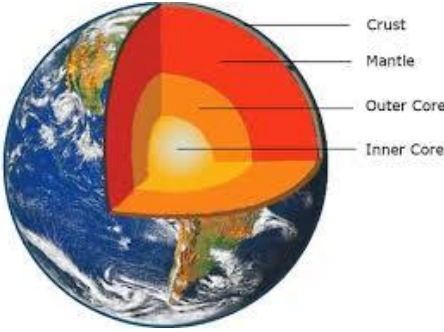
The villages in the high mountains are isolated (not accessible by car) and the cost of living is relatively high as there are no other sources of income other than the mountaineers.

Sherpas earn around £2000 for every climb but the Nepal earthquake of 2015 meant that was a huge drop in visitors to Nepal meaning that Sherpas had no income

Impact of tourism

The number of visitors to mountain ranges can be a threat to the local environment.

Visitors often leave their rubbish on the mountain (no access to rubbish collection points) there is a concern that the area around Everest is becoming spoiled by the amount of junk left behind.

Subject: Geography		Unit: Mountains	Year: 4
What do we know already: - The mountain ranges in Southern Europe (Y4) - The process of the water cycle (Y4) - How volcanoes are formed and why they erupt (Y3) - The Earth is made up of tectonic plates and there are different layers of the Earth (Y3)	 The Water Cycle  Earth's Layers  Location of Earthquakes and volcanoes		What's next: - the formation of the 5 main types of mountain - the main parts of a mountain - mountain ranges around the world - Mountain ranges in the UK - a comparison study of Mount Everest and Ben Nevis, focussing on land settlement and human development.

Vocabulary

Tier 1	Tier 2	Tier 3
atlas mountain village river rubbish steep shallow water cycle	ancient species - People/animals no longer alive. collide - When two plates move towards each other core - The central part of the Earth which creates the North and South Pole. educate - To learn skills in a particular subject. eroded - When rocks break down due to the Earth's natural processes. expedition - A journey by a group of people. fault line - Long crack in the surface of the Earth's crust. foot - Bottom or lower area of the mountain. form - The physical pattern of land use. hotspots - Thinner part of the Earth's crust. magma - Molten rock inside the Earth. monastery - A building occupied by monks. mantle - The layer of Earth between the crust and core mantle crust - The pieces of rock which we stand on ranges - A series of mountains or hills arranged in a line and connected by high ground. sea level - The level of the surface of the sea. summit - The highest point of the mountain. tectonic plates - The pieces of rock which float on the Earth's surface. tourist - A person who is travelling or visiting a place. volcanic - From a volcano. valley - Low area of land between hills or mountains.	Ben Nevis - Highest mountain in Scotland. dome mountain - Created when magma pushes up but doesn't break the surface. Everest - The highest mountain above sea level. fault line mountain - Created when one plate slides underneath another. fold mountain - Created when two or more plates are pushed together, and the plates push up. Grampian Mountains - One of the three major mountain ranges. outcrop - Low, flat sheets of rock, or taller rocky expanses along the edges of mountain ridges. plateau mountain - A flat piece of land that is pushed up above other structures ridge - When a chain of mountains form an elevated crest. Sherpa - A Tibetan ethnic group. snowline - The point on a mountain when snow begins peak - A summit and point on a surface that is higher in elevation than all points immediately adjacent to it. Tengboche - A village in Nepal. volcanic mountain - Created from years of volcanic eruptions. yaks - Long-haired domestic cattle. Yr Wyddfa- this is formally known as Snowdon. It is pronounced 'uhr with-va'.