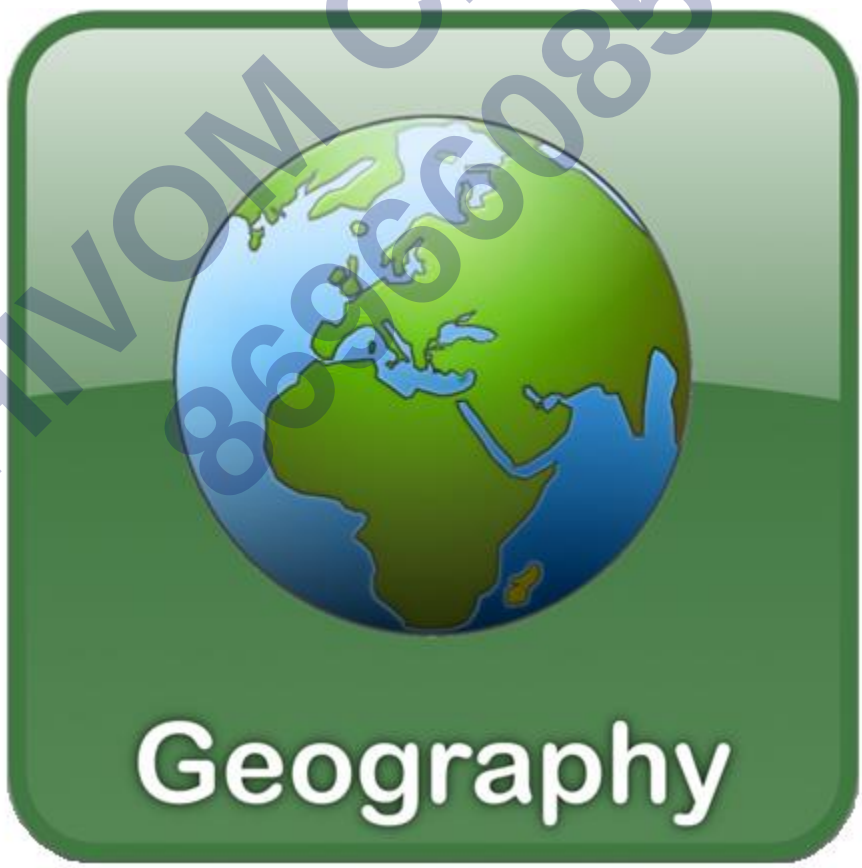
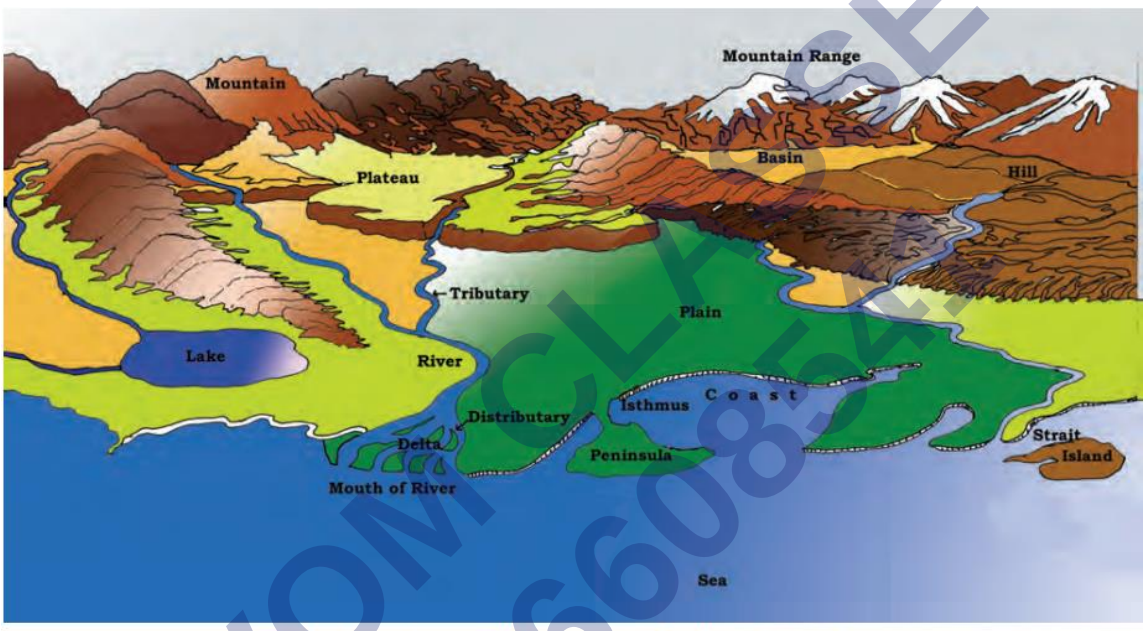
GEOGRAPHY

Chapter 6: Major Landforms of the Earth



Major Landforms of the Earth

The surface of the Earth is rugged and uneven. It has various landforms such as mountains, valleys, plateaus and plains. The uneven surface of the Earth is the result of the **internal process** and the **external process**. The internal process results in the elevation and depression of the surface of the Earth at various places, while the external process results in its wearing and upgrading. While the wearing of the surface of the Earth is called **erosion**, its elevation is due to the process of **deposition** which takes place due to the action of winds, running water and ice.



Major Landforms of the Earth

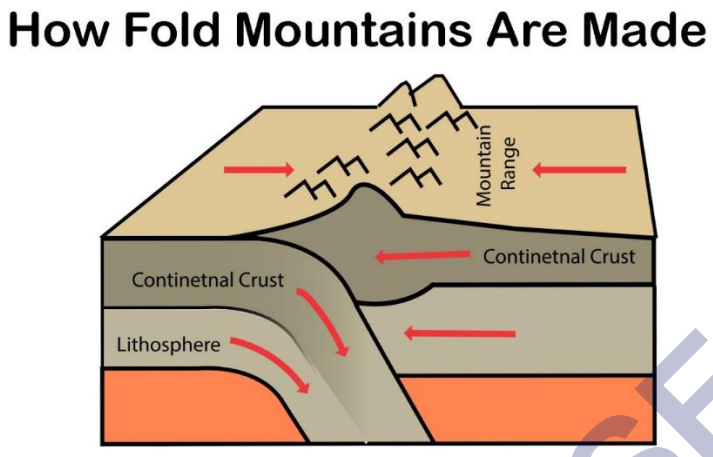
Mountains

A mountain is a natural elevation of the surface of the Earth. Mountains have a small summit and a broad base. As we go higher up on the mountains, the climate becomes cooler. Frozen ice on the mountains is known as a **glacier**. Because of the harsh climate and steep slopes, people do not prefer to live on the mountains. Many mountains arranged in a line are known as ranges. Some famous mountain ranges are the Himalayas (Asia), the Alps (Europe) and the Andes (South America). There are three types of mountains:

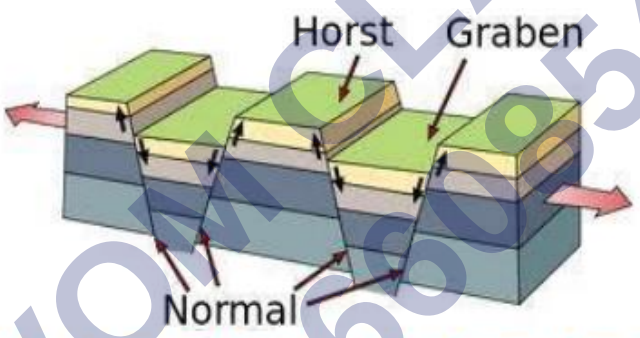
Fold Mountains: These mountains are formed due to the folding of the Earth's crust. The Himalayas and the Alps are young fold mountains with high conical peaks. The Aravalli

range in India, the Appalachians in North America and the Ural mountains in Russia are

some of the very old fold mountains.

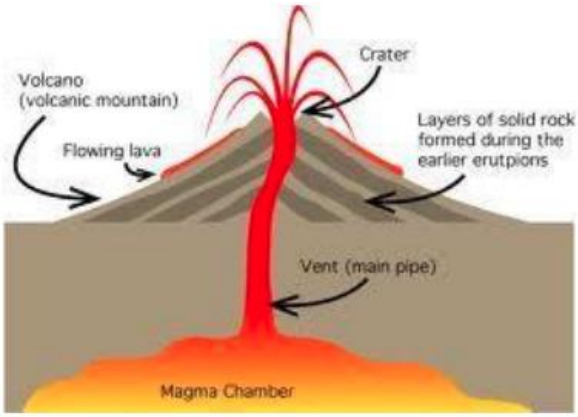


Block Mountains: When large areas are broken and displaced vertically, Block Mountains are created. The elevated blocks are known as **horsts** and the lowered blocks are called **graben**. The Rhine Valley and the Vosges mountains in Europe are examples of Block Mountains.



The diagram showing the formation of the Block Mountains

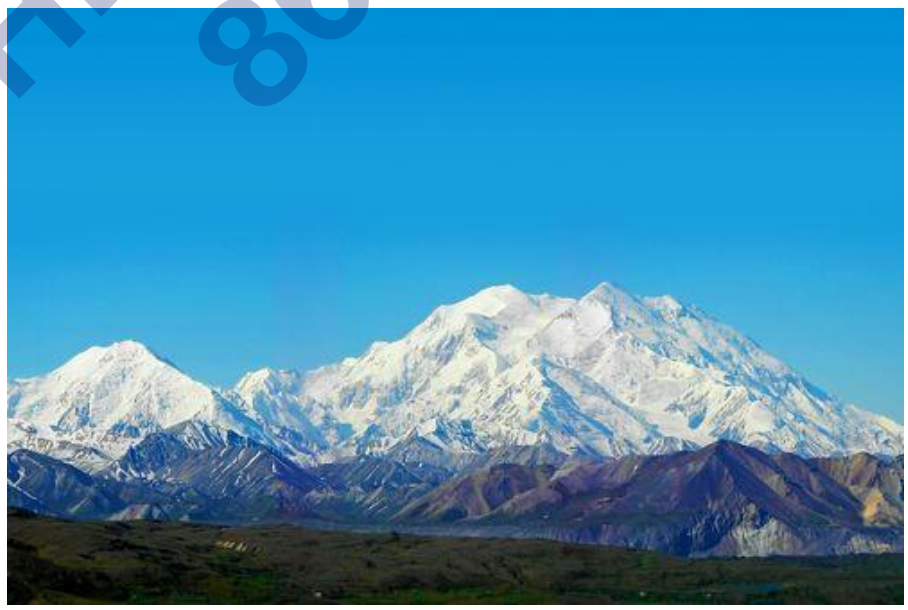
Volcanic Mountains: These mountains are formed due to volcanic eruptions when molten rock or magma under the surface of the Earth erupts. Magma which flows out onto the surface of the Earth is called lava. The accumulation of lava on the Earth's surface and its subsequent cooling, results in the formation of a volcanic mountain. Mt. Kilimanjaro in Africa and Mt. Fujiyama in Japan are two examples of such mountains.



The diagram representation of the formation of a volcanic mountain

Importance of Mountains

- Many rivers like the River Ganga originate from mountain glaciers. Many reservoirs of water are found in the mountains. This water is used for the purpose of irrigation and the generation of hydroelectricity.
- The fertile land of river valleys and slopes of mountains are used for farming.
- Mountains are home to many varieties of flora and fauna.
- The forests in the mountains provide us with fuel, fodder, food, medicines and with many other products such as gum, honey and raisins.
- Mountains are frequented by many tourists as they are known for their scenic beauty. Many adventurous sports such as skiing, paragliding and river rafting are popular in the mountains. These features help the tourist industry in mountainous regions to prosper.



Plateau

An elevated flat piece of land is known as a plateau. It can be also termed as a flat topped **table land** which stands above the surrounding area. They may have more than one side with steep slopes. The height of a plateau varies. Some may be only a few metres high while others may be several thousand metres in height. Plateaus may be young or old.

The Deccan Plateau in India is one of the oldest plateaus. Some other plateaus are the East African Plateau in Africa, the Western Plateau in Australia and the Tibet Plateau in Asia. The Tibet Plateau is the highest plateau in the world. It has the height of 4000-6000 metres above the mean sea level.

The Deccan Plateau in India

Importance of Plateaus

- Plateaus are a storehouse of minerals. While the African Plateau has huge reserves of gold and silver, the Chhotanagpur Plateau in India is famous for coal, iron and manganese deposits.
- Plateaus also house several waterfalls. In India, two important waterfalls in the plateau regions are the Hundru Falls in the Chhotanagpur Plateau on the River Subarnarekha and the Jog Falls in Karnataka.
- The lava plateaus which are formed due to volcanic eruptions have black soil, and are suitable for cultivation.
- Plateaus have many scenic spots and are great tourist attractions.

Plains

Plains are a large piece of flat land. Plains are usually not more than 200 metres above the mean sea level. Most plains have been formed as a result of the depositional action of rivers and their tributaries. As rivers flow down the mountains, they erode the

mountains and carry forward the eroded materials such as stones, sand and silt. The deposition of these materials results in the formation of plains. Some famous plains are the Great North Indian Plains formed by the River Ganga and its tributaries and the plains in China formed by the river Yangtze. Plains are important because:

- They are formed of fertile soil and thus the land is agriculturally very productive.
- Most people settle in the plains as flat land is available for the building of transport facilities, houses, buildings, railways etc.
- Since, they are formed due to the action of rivers; water is available for agricultural purposes.

In India, the Indo-Gangetic plains are thickly populated.

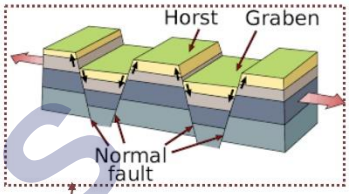
The plain regions are fertile and thus are densely populated

People in Landforms

All kinds of landforms are not equally inhabited by people. While plain regions are densely populated, mountainous regions are sparsely populated. People prefer to live in the plain regions as the land is flat and hence it is easy to build houses and means of transportation. The soil is also fertile which results in surplus agricultural production. It was due to these reasons that many civilisations emerged in the fertile river valley plains, in the early days. On the contrary, in the mountains, it is difficult to grow crops on large scale. The hilly and rugged terrain does not allow easy construction of houses.

Today, the destruction of various landforms is taking place. Sometimes this may also be is due to natural calamities such as earthquakes, volcanic eruptions etc. Natural calamities such as floods and landslides are caused due to deforestation and increased mining activities. Hence it is important that we make use of the available lands carefully.

Class : 6th Social Studies (The Earth Our Habit)
Chapter - 6 : Major Landforms of the Earth



Horest

Fold

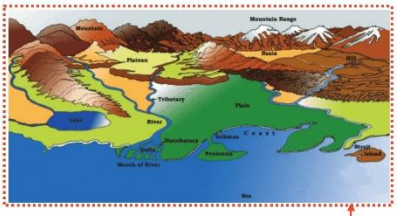
A Block Mountain
Horsts
Graben

Formed Due to Volcanic mountains
Volcanic activity
A volcanic Mountain

Three Types

Glaciers
Permanently frozen rivers of ice.
Range
Mountains arranged in a line

Mountains



Major Landforms of the Earth

Two Process

Internal Process leads to
Upliftment and sinking of earth's surface.

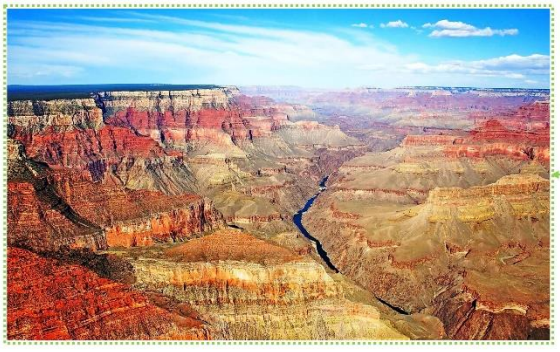
Plains

Large stretches of flat land
Very fertile
Easy construction of transport network

Plateaus

Landforms and the People

Elevated flat land
Tibetan Plateau is the highest
Rich in mineral resources



Better living conditions in plains
Difficult life in mountainous areas

External Process
Erosion
Weaving away of earth's surface.
Deposition
Rebuilding of surface.

Important Questions

➢ Multiple Choice Questions:

Question 1. Which is ideal for cultivation of crops?

(a) River valleys

(b) Flora and fauna

(c) Glaciers

Question 2. The Tibet plateau is the highest plateau in the world with a height of:

(a) 2000-4000 mtr.

(b) 4000-6000 mtr.

(c) 8000-9000 mtr.

Question 3. African plateau is famous for:

(a) Gold and diamond

(b) Iron mining

(c) Coalmining

Question 4. Which are the most useful areas for human habitation?

(a) Plateaus

(b) Mountains

(c) Plains

Question 5. The plains of Asia are formed by rivers:

(a) Ganga and Brahmaputra

(b) Yamuna

(c) Kaveri

Question 6. Undersea mountain is:

(a) Mauna Kea

(b) Kilimanjaro

(c) Fujiyama

Question 7. The continuous wearing down and rebuilding of the land surface is a/an:

(a) Internal process

(b) External process

(c) Glaciers.

Question 8. The Himalayan Mountains and the Alps are example of:

(a) Fold Mt.

(b) Block Mt

(c) Volcanic Mt.

Question 9. Mt. Kilimanjaro is situated in:

(a) India

(b) Japan

(c) Africa

Question 10. Mt. Fujiyama is situated in:

(a) India

(b) Japan

(c) Africa

Question 11. _____ forces originate from within the earth and _____ forces originate from outside the earth

(a) Volcanic and Tectonic

(b) Tectonic and Gradational

(c) Gradational and Volcanic

(d) Gradational and Tectonic

Question 12. Which of the following is not the type of mountains

(a) Rockies Mountain

(b) Block mountains

(c) Fold mountains

(d) Volcanic mountains

Question 13. What are two land forming processes

(a) Upper processes and Lower processes

(b) Block processes and Fold processes

(c) Internal processes and External processes

(d) Minor processes and Major processes

Question 14. Which of the following is the Peninsular plateau?

(a) Deccan

(b) Sahara

(c) Chotanagpur

(d) North

Question 15. How plateau is differ from the mountains

(a) It is considerably higher than the surroundings

(b) Plateau is elevated flat land

(c) There are three types of mountains

(d) Its elevation is more than 600 metres

➢ Fill in the blanks:

1. _____, _____ and _____ are mountain ranges of Asia, Europe and South America, respectively.
2. The Jog falls in _____.
3. The _____ in India is one of the oldest plateaus.
4. As we go higher, the climate becomes _____.
5. The _____ in North America have rounded features and low elevation.
6. _____ in the Pacific Ocean is an undersea mountain.

➢ Write true (T) or false (F):

1. Mt. Kilimanjaro is in Africa.
2. The Hundru Falls is in the Chhotanagpur plateau on the river Subarnarekha.
3. Many of the mining areas in the world are located in the plains areas.
4. Mountains vary in their heights and shape.
5. Volcanic mountains are formed due to erosion.
6. The river valleys and terraces are ideal for cultivation of crops.

➢ Very Short Questions:

1. Which is the oldest plateau in India?
2. What do you mean by horsts?
3. Define mountain range.
4. What do you mean by graben?
5. Name the old fold mountain of Russia.
6. Name the river on which Hundru falls is located.
7. Which is the highest peak in the world?

8. Where is Jog Falls located?
9. Name the place where Rope Bridge is situated.
10. Write one mountain range of Europe.

➢ Short Questions:

1. Which are the two processes that lead to formation and development of landforms?
2. How are Plains formed?
3. Why mountains are less populated?
4. How do mountains change climate of a place?
5. What are the various uses of plateaus?
6. Write a short note on lava plateau.

➢ Long Questions:

1. How plateaus are useful to us?
2. List some important features of plateaus?
3. How mountains are useful?
4. Write a short note on types of mountains.
5. Explain the major landforms of India?

ANSWER KEY –

➢ Multiple Choice Answer:

1. (a) River valleys
2. (b) 4000-6000 mtr.
3. (a) Gold and diamond
4. (c) Plains
5. (a) Ganga and Brahmaputra
6. (a) Mauna Kea
7. (b) External process
8. (a) Fold Mt.
9. (c) Africa
10. (b) Japan
11. (b) Tectonic and Gradational

12. (a) Rockies Mountain
13. (c) Internal processes and External processes
14. (a) Deccan
15. (b) Plateau is elevated flat land

➢ Fill in the blanks:

1. The Himalayas, the Alps and the Andes
2. Karnataka
3. Deccan plateau
4. Colder
5. Appalachians
6. Mauna Kea (Hawaii)

➢ Write true (T) or false (F):

1. True
2. True
3. False
4. True
5. False
6. True

➢ Very Short Answer:

1. Deccan Plateau.
2. The uplifted blocks are termed as horsts.
3. Mountains may be arranged in a line known as range.
4. The lowered blocks are called graben.
5. The Ural Mountain
6. River Subarnarekha
7. Mount Everest is the highest peak in the world.
8. Karnataka
9. Arunachal Pradesh
10. The Alps

➢ Short Answer:

1. **The two processes that lead to the formation of landforms are:**

   - **Internal Process:** This process leads to the upliftment and sinking of the earth's surface at several places.

     Example: block mountains.

   - **External Process:** The external process is the continuous wearing down and rebuilding of the land surface.

     Examples: Barchans.

2. Plains are formed by the rivers. The rivers erode the slopes of mountains and carry forward the eroded material. They then deposit their load consisting of stones and sand along their courses and in valleys. In this way the plains are formed.

3. **The mountains are thinly populated because:**

   - Harsh climate is found in mountainous area that is not suitable for people.
   - The mountain slopes are steep making it difficult to construct buildings.
   - Less land is available for farming.

4. Mountainous areas have lower temperatures. They serve as climatic divide between two adjoining regions. The Himalaya for example forms a barrier to the movement of cold winds from Central Asia towards the Indian subcontinent. They also force the South West Monsoons to ascend and cause rainfall on their southern slopes.

5.

   - Plateaus are rich in mineral deposits.
   - Most of the India's mining area are located in plateau.
   - Plateau areas have plenty of waterfalls, scenic spots and are great attraction for tourist
   - The lava plateaus are rich in black soil that is good and fertile for cultivation.

6. Lava plateaus are formed by highly fluid basaltic lava during numerous successive eruptions through numerous vents without violent explosions. These eruptions are quiet because of low viscosity of lava and contains small amount of trapped gases. Multiple successive and extensive lava flows cover the original landscape to eventually form a plateau, which may contain lava fields, cinder cones, shield volcanoes and other volcanic landform.

➢ Long Answer:

1. Plateaus are very useful because they are rich in mineral deposits. African plateau is famous for gold and diamond mining. In India huge reserves of iron, coal and manganese are found in the Chhotanagpur plateau. In the plateau areas, there may be several waterfalls as the river falls from a great height. The lava plateaus are rich in black soils that are fertile and good for cultivation. Many plateaus have scenic spots and are of great attraction to tourists.

2. **Features of plateaus:**

- A plateau is an elevated flat land.
- It is a flat-topped table land standing above the surrounding area.
- A plateau may have one or more sides with steep slopes.
- The height of plateaus often varies from few hundred metres to several thousand metres.
- Plateaus, like mountains may be young or old.
- The Deccan plateau in India is one of the oldest plateaus.
- The Tibet plateau the highest plateau in the world with a height of 4,000 to 6,000 metres above the mean sea level.
- Plateaus are rich in mineral deposits.

3. **Importance of mountains:**

- The mountains are a storehouse of water.
- Many rivers have their source in the glaciers in the mountains.
- Reservoirs are made and the water is harnessed for the use of people.
- Water from the mountains is also used for irrigation and generation of hydro-electricity.
- Mountains have a rich variety of flora and fauna.
- The forests provide fuel, fodder, shelter and other products like gum, raisins, etc.
- Mountains provide an idyllic site for tourists.
- Several sports like paragliding, hang gliding, river rafting and skiing are popular in the mountains.

4. **There are three types of mountains- Fold Mountains, Block Mountains and the Volcanic Mountains:**

- **Fold Mountains:** The Himalayan Mountains and the Alps are young fold mountains with rugged relief and high conical peaks. The Aravali range in India

is one of the oldest fold mountain systems in the world. The range has considerably worn down due to the processes of erosion. The Appalachians in North America and the Ural mountains in Russia have rounded features and low elevation. They are very old fold mountains.

- **Block Mountains:** Block Mountains are created when large areas are broken and displaced vertically. The uplifted blocks are termed as horsts and the lowered blocks are called graben. The Rhine valley and the Vosges Mountain in Europe are examples of such mountain systems.
- **Volcanic Mountains:** Volcanic Mountains are formed due to volcanic activity. Mt.Kilimanjaro in Africa and Mt.Fujiyama in Japan are examples of such mountains.

5. We can group different landforms depending on elevation and slope as mountains, plateaus and plains.

- **Mountains:** A mountain is any natural elevation of the earth surface. The mountains may have a small summit and a broad base. It is considerably higher than the surrounding area. Some mountains are even higher than the clouds. In some mountains, there are permanently frozen rivers of ice. They are called glaciers. There are some mountains you cannot see as they are under the sea. Because of harsh climate, less people live in the mountain areas. Since the slopes are steep, less land is available for farming.
- **Plateau:** A plateau is an elevated flat land. It is a flat-topped table land standing above the surrounding area. A plateau may have one or more sides with steep slopes. The height of plateaus often varies from few hundred metres to several thousand metres. Plateaus, like mountains may be young or old. The Deccan plateau in India is one of the oldest plateaus. The Tibet plateau is the highest plateau in the world with a height of 4,000 to 6,000 metres above the mean sea level. Plateaus are very useful because they are rich in mineral deposits.
- **Plains:** Plains are large stretches of flat land. They are, generally, not more than 200 metres above mean sea level. Some plains are extremely level. Others may be slightly rolling and undulating. Most of the plains are formed by rivers and their tributaries. Generally, plains are very fertile. Construction of transport network is easy. Thus, these plains are very thickly-populated regions of the world.