Revision Notes

Class- 7 Social Science (Geography)

Chapter 3 - Our Changing Earth

The outer part of the earth formed by the crust and the upper mantle is called Lithosphere. It comprises several plates known as lithospheric plates. The plates move by a few millimetres every year because of the circular movement of molten magma inside the earth. When lithospheric plates move, it causes changes on the earth's surface and results in various landforms. The lithospheric plates are irregular and rigid.

Forces Causing Earth Movement:

● The earth's movements are determined by the forces causing them. These forces are of two types: endogenic forces and exogenic forces.

● Endogenic forces are forcing that act on the interiors of the earth.

● Endogenous forces are divided into sudden forces and catastrophic forces. Sudden forces are the result of earthquakes, volcanoes, and landslides. The sudden force caused widespread destruction. Disastrous forces are the cause of the formation of mountains. The disastrous force is slow.

● Exogenic forces are forces that are experienced on the earth's surface.

● Exogenic forces may be erosional or dispersive.

Volcano:

● Volcanoes are the result of endogenic forces acting on the earth's interiors.

● It is a vent or crack in the earth's crust through which molten magma erupts suddenly.

● The Magma coming out from the earth's surface in the form of a volcano is called lava.

● It is found in a region where the plates either converge or diverge.

● Volcanoes occur in plate boundaries.

● Volcanoes occur in mountains, hills, plateaus, and also deep inside the ocean bodies.

● They can be divided into active and dormant volcanoes based on their activity. www.vedantu.com

● In Yellowstone National Park, there exists a super volcano. According to scientists, the eruption of a super volcano will lead to the destruction of the entire planet.

Earthquake:

● Earthquakes are vibrations occurring in the lithospheric plates which move the surface of the earth.

● The vibrations spread all over the earth.

● The earthquake originates in the crust, and this point is called the focus.

● The point on the earth's surface perpendicularly above the focus is called the epicentre. The vibrations travel in waves, and their strength decreases as distance increases from the epicentre.

● Earthquakes cannot be predicted.

● Earthquakes are measured using a machine called the seismograph. The intensity of an earthquake is calculated on the Richter scale.

● In 2001, on the 26th of January, a massive earthquake of 6.9 intensity on the Richter scale hit the Bhuj town of Gujarat, causing massive destruction and damage to life and property.

● Earthquake waves are of three kinds-

1. P waves or called longitudinal waves
2. S waves or transverse waves
3. L waves which are also called surface waves

Major Landforms on Earth:

● The landscapes on earth are continuously formed and worn away by two processes – weather and erosion.

● Weathering is a process by which rocks on the earth's surface are broken up.

● Erosion is the process by which there are layers of landscapes on the earth's surface.

● water, ice, wind, etc are the agents of erosion.

● These processes of erosion and deposition are responsible for the formation of various landforms on the surface.

Erosion by River:

● Rivers are instrumental in erosion.

● When the running water of the river falls over the rugged rocks or a steep valley at a sharp angle, it forms a waterfall.

● On entering the plains, rivers twist and turn, and this is known as meanders. The river meanders come closer and closer due to erosion and deposition of silt.

● When a meander cuts off from the main river body, it is known as an ox-bow lake.

● It leads to flooding of the nearby areas when the river overflows its banks, which deposits fine sediments along with the flooding areas. This flat fertile land formed is known as floodplains.

● The river bank is called a dyke.

● The speeds of the river decrease near the sea. It breaks up into distributaries, and there are sediments deposited in the region. This region is known as a delta.

Did You Know:

Waterfalls are of aesthetic value and function as tourist destinations. There are thousands of waterfalls in the world. The highest waterfall is the Angel Falls of Venezuela in South America. Other famous waterfalls in www.vedantu.com the globe are Niagara Falls, located between Canada and the USA, and Victoria Falls on the borders of Zambia and Zimbabwe.

Erosion by Sea Waves:

● Sea waves on erosional and depositional activities give rise to coastal landforms.

● There are rocks present near the seas which are struck continuously by the sea waves.

● Cracks develop inside as a result of erosion and become enormous over time.

● There are hollow cave-like structures formed in the rocks, and these are known as the sea caves.

● When the cavities become large, the only roof of the cave remains, and this structure is known as sea arches.

● When only the walls of the caves are left behind, this feature is known as stacks.

● When a rocky coast rises steeply and vertically above the seawater, it is a sea cliff.

● Sea waves bring along deposits and sediments to shore, which forms beaches.

Erosion by Glaciers:

● Glaciers are frozen rivers of ice that erode landscapes by exposing solid rocks.

● They cut the ice in the deep well to melt it and fill it with water, forming a beautiful lake in the mountains.

● The deposits result in the formation of glacial moraines.

Erosion by Wind:

● The wind is an active agent of erosional and depositional activities in the deserts.

● There are mushroom rocks in the desert, which decline at the lower section more than the upper chamber. Hence, they have a narrow base and wider top.

● Blowing wind lifts and transports sand from one place to another in the desert. When the sand is deposited, it forms a low hill-like structure known as dunes.

● Very fine, light grains of sand, transported over long distances by winds, get deposited in more significant areas to form loess. China harbours large deposits of loess.

Important Questions and Answers

1. Describe the formation of ox-bow lakes.

Ans: When rivers flow through the plain land, they bend into curves called meanders after descending from mountains. These meanders deposit silt on their banks, and hence the meander loops come closer and closer. Sometimes these loops cut off from the mainstream and form water bodies known as ox-bow lakes.

2. Why do lithospheric plates move?

Ans: The plates of Lithospheric move due to the movement of magma inside the earth. Earth's rotation on its axis constantly is responsible for the direction of the mantle as well. The plates move at their own pace. It is believed that every year the plates move a specific millimetre.

3. Write how beaches are formed?

Ans: When the waves hit the shore, it will erode it. The sea waves further carry the eroded material in the form of silt, sand, etc. While withdrawing from the coast, they deposit these sediments along the shore area, forming wide beaches.

4. What are sand dunes? What are the types of sand dunes?

Ans: Sand dunes are formed when a huge amount of sand is lifted up by the wind and deposited in another place in the form of a low hill. They are aggregates of sand and gravel. Sand dunes are prominent in a desert ecosystem. However, they are also found in coastal areas sometimes. The Sahara Desert, Thar Desert, Tanzanian Desert, etc., all have a system of sand dunes. Sand dunes are of various shapes. They are-

● **Star sand dunes:** These sand dunes are pyramidal in shape. They are formed by multidirectional winds and are the tallest sand dunes on the earth. Gran Desierto de Altar in Mexico is one such sand dune.

● **Linear sand dunes:** These sand dunes are primarily straight and are the longest sand dunes in the world. They are found in the Sahara Desert.

● **Parabolic sand dunes:** These sand dunes are crescent-shaped and sometimes have vegetation at the tips. They are found in the Death Valley of California.

● **Barchan sand dunes:** are also crescent-shaped sand dunes but with steep faces away from the wind direction. Turkish dessert has barchan-shaped sand dunes. They are the most common type of sand dunes on earth.

● **Reversing sand dunes:** These are found in regions where the wind changes its direction periodically. It is found in the deserts of Australia. Coast they erode it. The sea waves further carry the eroded material in the form of silt, sand, etc. While withdrawing from the coast, they deposit these sediments along the shore area, forming wide beaches.

5. Explain exogenic and endogenic forces.

Ans: ● On the surface of the earth exogenic forces act and result in changes on the planet's surface. Exogenic forces are erosion, deposition, weathering, and gradation.

● Endogenic forces are forces that originate inside the earth and cause changes on the surface of the planet. Endogenic forces result in volcanoes and earthquakes.

6. Explain the process of flood plain formation.

Ans: During the monsoons, the banks of the rivers overflow resulting in flooding of nearby areas. After the flood, the water leaves behind fine material in sediments, which makes the soil extremely fertile and suitable for agriculture. This flat land with a layer of fine silt is now known as flood plains.

7. Why do earthquakes happen?

Ans: Lithospheric plates movements are one of the reasons of earthquakes. These are vibrations that originate below the earth's surface and travel all around the earth. The focus is said to be the origin of the earthquake. The focus is present in the crust. The point on the earth's surface perpendicularly above the focus is called the epicenter.