



A disaster is a sudden event that causes a lot of damage. Natural disasters are caused by extreme conditions of weather or changes that take place inside the earth. Strong winds, heavy rainfall, extreme temperature, and changes inside the earth can seriously damage environment, life and property and cause sufferings for a long period. Let us learn about some natural disasters that can affect our lives in a big way.

## EARTHQUAKES

Earthquakes are caused due to movement in earth's crust. An earthquake is a sudden movement or disturbance in the earth's surface. Earthquakes may be mild or massive, resulting in destruction on a large scale.

The point under the ground where these vibrations originate is called the focus of the earthquake. The point on the earth's surface directly above the focus is called the epicenter of the earthquake. Sometimes, the big earthquake is followed by subsequent tremors or milder earthquakes which are known as aftershocks.



*Earthquake*

## Measuring Earthquakes

The intensity of an earthquake is recorded by an instrument called a seismograph.

The magnitude of an earthquake is measured on Richter scale. The numbers on this scale ranges from 1 to 10. Earthquakes below 6 are considered moderate and mild and those above 6 are considered severe.

## Effects of Earthquake

- Cracks develop on the walls of buildings. These cracks may lead to collapsing of the buildings.
- Electric wires get snapped resulting in short-circuit and fires.

- The undersea earthquakes can cause disasters like tidal waves. It causes harm to life and property.

## Safety Measures During an Earthquake

- If you are inside your house, do not try to run out of the building.
- Get under a bed or table.
- Never use the elevator during the course of an earthquake. This is because the electricity supply may be cut off leaving you stuck up in the elevator.
- If you are outdoors, stay at a place till the earthquake stops. Do not stay near walls, buildings, lamp posts, power poles, etc.

## FLOODS AND CYCLONES

When it rains heavily, all the water does not seep through the soil. Most of the rainwater accumulates over the land, causing water logging. Continuous rains for several days result in overflowing of the rivers and submerging of nearby areas. This condition is called flood.



*Floods*



*Cyclones*

In coastal areas, heavy rain is accompanied by very strong winds. This is called cyclone. In India, states like Uttar Pradesh, West Bengal, Orissa, Bihar and Assam are prone to cyclones and floods.

## Effects of floods and cyclones

- Fields get immersed in water and the crops, get destroyed.
- Electric lines, communication networks and water supply get affected.
- Belongings of people get washed away. People and animals become homeless.
- Due to unhygienic conditions, germs spread and there is an outbreak of diseases such as jaundice, malaria and cholera.

## Preventive Measures

- Trees should be planted in large numbers as they slow down the flow of water.
- Dams should be built across rivers to check the flow of water and prevent floods.
- When floods occur, the people of the area should go to high places.

## DROUGHTS

A drought is a period of very hot and dry weather resulting in lack of rainfall in a particular region for a long period of time. Lack of rain and high temperatures affect rural agricultural areas. Wells, lakes and streams dry up. There is shortage of drinking water. Plants and crops wither and finally die. Animals too suffer. Forest fires occur and spread rapidly.



*Drought*

### Effects of Drought

- There is acute shortage of food and fodder.
- Land becomes barren and soil erosion increases.
- Livestock perish due to shortage of water and fodder resulting in shortage of milk.

### Preventive Measures

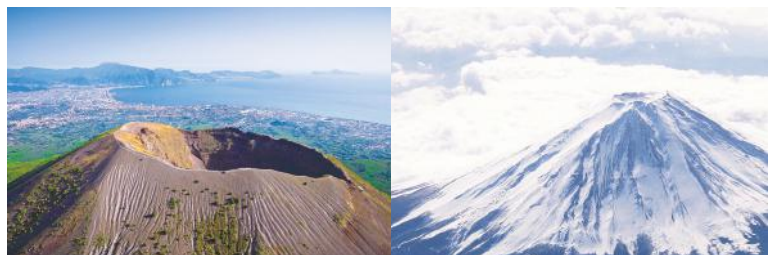
- Plant a large number of trees to increase rainfall and to reduce the chances of drought.
- Rainwater harvesting can be done to store water. This can be used during drought.

## VOLCANO

The word 'volcano' comes from the name "Vulcan" who is the Roman God of Fire. Deep inside the earth, it is so hot that even rocks melt. This molten rock is called magma. The magma collects under the crust in reservoirs called magma chambers. Sometimes when the pressure in the magma chambers becomes too much, the magma is pushed through channels called vents and comes out with great force onto the surface of the earth through weak points or cracks. Such an opening in the earth's surface is called a volcano and the coming out of lava, etc. is called a volcanic eruption.

Volcanoes can be classified into three types based on their nature. These are :

1. **Active Volcanoes** : The volcanoes that erupt regularly or have erupted in the recent past and may erupt any time in future are known as active volcanoes. At present there are about 500 active volcanoes in the world and majority of them are found around the pacific ocean, that is why it is called pacific ring of fire. Mount Vesuvius and Mount Fuji are active volcanoes.



*Active Volcano*

### Do You Know ?

Volcanoes are also found on other planets in the solar system. The largest volcano in our solar system is Olympus Mons on the planet Mars.

2. **Dormant Volcanoes** : The volcanoes that have not erupted for a long time but may erupt in future. Sitick, Alaska and Mount Fiji are dormant volcanoes.



*Dormant Volcanoes*

3. **Extinct Volcanoes** : The volcanoes that have stopped erupting are called extinct volcanoes. These are unlikely to erupt again. Mount Egneont in New Zealand and Mount Kilimanjaro in Tanzania are extinct volcanoes.



*Extinct Volcanoes*

## Effects of Volcano

- Poisonous gases and dust released from a volcanic eruption can cause severe respiratory problems.
- Volcanic eruptions have been known to knock down entire forests.
- There is an increase in marine temperature which kills aquatic creatures.

## TSUNAMI



*Tsunami*

Tsunami is a Japanese word. 'TSu' means harbour and 'nami' means wave. When an earthquake takes place under the ocean, it causes giant waves that can travel hundreds of kilometers through water before it hits the coast. These waves are called tidal waves or tsunamis. A tsunami is a series of waves which sometimes reach a height of 30.5 metres. These waves cause widespread destruction. A tsunami can also be caused by a volcanic explosion.

## Effects of tsunami

- Huge loss of life and property.
- Huge waves wash away everything in their path.
- Acres of land get flooded with water.

## Preventive Measures

- Evacuate places near the sea if prior warning is given.
- If evacuation is not possible, move up to high areas.



## Know the Keywords :

- Earthquake : Strong shaking in a part of the earth's surface.  
Epicentre : The point on the earth's surface directly above the source of an earthquake.  
Crater : The bowl-shaped mouth of a volcano.  
Magma : Hot, liquid matter below the earth's surface.  
Lava : Hot, melted rock that erupts from a volcano.



## Point to Remember

- Forces of nature such as temperature, pressure and magnetic forces keep changing the condition of the earth.
- An earthquake is a sudden movement or disturbance in the earth's surface.
- The intensity of an earthquake is recorded by an instrument called a seismograph.
- A drought is a period of very hot and dry weather resulting in lack of rainfall in a particular region for a long period of time.
- The volcanoes that have not erupted for a long time but may erupt in future are called dormant volcanoes.
- A tsunami is a series of huge waves caused by an underwater disturbance such as an earthquake or a volcanic eruption.

## EXERCISE TIME

### A. Multiple Choice Questions (MCQs).

Tick (✓) the correct word :

1. The molten rocks under the earth's crust are called :  
a. magma  b. lava  c. vent
2. The volcanoes that have stopped erupting are called :  
a. active volcanoes  b. extinct volcanoes  c. dormant volcanoes
3. Land becomes barren and soil erosion increases during :  
a. Floods  b. Cyclones  c. Drought
4. The sudden shaking of a part of the earth is called an :  
a. earthquake  b. volcano  c. flood

**B. Fill in the blanks :**

1. A \_\_\_\_\_ can also be caused by a volcanic explosion. (tsunami/volcano)
2. The magnitude of an \_\_\_\_\_ is measured on Richter scale. (tsunami/ earthquake)
3. \_\_\_\_\_ should be built across rivers to check the flow of water and prevent floods. (Dams/ Lakes)
4. Mount Kilimanjaro is an \_\_\_\_\_ volcano. (extinct/ dormant)

**C. Write 'T' for true and 'F' for false :**

1. Flood is the overflow of large amount of water.
2. Land becomes barren and soil erosion increases during earthquakes.
3. Earthquakes above 6 are considered moderate and mild.
4. The magma collects under the crust in reservoirs called magma chambers.

**D. Answer the following questions :**

1. What are natural disasters? How are they caused?
2. What is an earthquake? What are its effects?
3. What are the preventive measures during floods and cyclones?
4. What is a volcano? Explain the different types of volcanoes.
5. What do you mean by tsunami? What are its effects?



## Creative Work

- Make a project on the major volcanoes around the world and volcanic eruptions that have taken place in the past.