

NATURAL PHENOMENA Class 8

EARTH QUAKE

Major Earth Quakes in India: 1) on 26th January 2001 in Bhuj District of Gujarat
2) on 8th October 2005 in Uri and Tangdhar towns of North Kashmir

What is an Earthquake?

An earthquake is a sudden shaking or trembling of the earth lasting for a very short time. It is caused by a disturbance deep inside the earth's crust.

The earthquakes can cause floods, landslides and tsunamis.

A major tsunami occurred in the Indian Ocean on 26th December 2004.

Structure of Earth: Earth has 3 layered structure they are

- 1) **Outer crust**
- 2) **Middle mantle**
- 3) **Innermost core**

Crust and Plate : uppermost layer of the earth called the crust. The outermost layer of the earth's crust is fragmented. Each fragment is called a plate. These plates are in continual motion. When they brush past one another or a plate goes under another due to collision, they cause disturbance in the earth's crust. It is this disturbance that shows up as an earthquake on the surface of the earth.

Causes of Earthquake: 1) plate movement

2) volcanic eruption

3) Meteor hit

4) underground nuclear explosions

Seismic or fault zones ; Since earthquakes are caused by the movement of plates, the boundaries of the plates are the weak zones where earthquakes are more likely to occur.

The weak zones are also known as **seismic or fault zones**

Seismic zones in India: Kashmir, Western and Central Himalayas, the whole of North-East, Rann of Kutch, Rajasthan and the Indo – Gangetic Plane. Some areas of South India.

RICHTER SCALE: The power of an earthquake is expressed in terms of a magnitude on a scale called **Richter scale**.

Destructive earthquakes have magnitudes higher than 7 on the Richter scale

Seismic waves: The tremors during earthquakes produce waves on the surface of the earth. These are called seismic waves.

Seismograph: The waves are recorded by an instrument called the **seismograph**. The instrument is simply a vibrating rod, or a pendulum, which starts vibrating when tremors occur. A pen is attached to the vibrating system. The pen records the seismic waves on a paper which moves under it. By studying these waves, scientists can construct a complete map of the earthquake. They can also estimate

its power to cause destruction

Quakesafe Buildings (Home Assignment)

- 1) In highly seismic areas, the use of mud or timber is better than the heavy construction material. Keep roofs as light as possible. In case the structure falls, the damage will not be heavy.
- 2) Wall fixed cupboards and shelves are better, (they do not fall easily.)
- 3) Avoid hanging wall clocks, photo-frames, water heaters etc.(so that in the event of an earthquake, they do not fall on people)

- 4) All buildings should have fire fighting equipment in working order .(Since some buildings may catch fire due to an earthquake).
- 5) Consult qualified architects and structural engineers.

Steps to protect in the event of Earthquake (Home assignment)

- 1. If We are at home:**
 - 1) shelter under a table and stay there till shaking stops.
 - 2) Stay away from tall and heavy objects that may fall on us.
 - 3) If we are in bed, do not get up.
 - 4) Protect our head with a pillow.

- 2. If we are outdoors:**
 1. Find a clear spot, away from buildings, trees and overhead power lines. Drop to the ground.
 2. If we are in a car or a bus, do not come out. Ask the driver to drive slowly to a clear spot. Do not come out till the tremors stop.

HOME WORK

- 1.What is an earthquake?**
- 2.Name the three layers of earth.**
- 3.What is crust?**
- 4.What is a plate ?**
- 5.What are the causes of earthquake**
- 6.What are seismic zones or fault zones**
- 7. Name the main seismic zones of India**
- 8.What are Siesmic waves**
- 9. What is a Siesmograph?**
- 10Name the scale used to measure the intensity of an earthquake?**