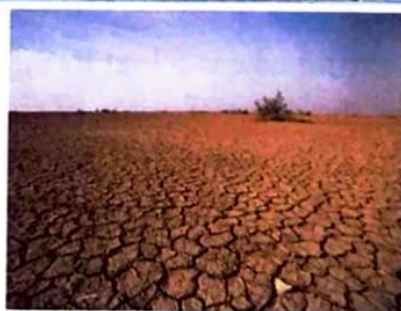


Good Morning students,

Today we are going to set our focus on the topic - "Natural Disasters" Chapter-16 of your textbook, titled "TimeTrek-5". If all the students are ready then let us start our today's topic.

Meaning of Disaster :- To understand the meaning of a disaster, we should first know what is hazard. A hazard is a condition that may cause loss of life, injury, disease, damage to the environment.

Any hazardous condition can turn into a disaster if proper precautions are not taken at the right time. We can define disaster as a sudden accident that can cause huge damage and loss of life. Disasters can be broadly classified as man-made disasters and natural disasters.



1. Floods

2. Drought

3. Earthquake

Man-made Disasters:- These are caused by human beings. Some of the man-made disasters are bomb explosions, terrorism, war, leakage of poisonous chemicals, a breach in dams, industrial accidents and epidemics.

Natural Disasters:- Natural events such as flood, earthquake, landslide etc, which cause significant damage or loss of life are called natural disasters. A natural disaster can occur anywhere and at any time. There are many reasons ^{that} cause natural disasters.

Natural disasters can arise from:-

- 1) Weather changes such as storms, cyclones, floods etc.
- 2) Changes in climatic conditions such as droughts, avalanches etc.
- 3) Movements in the interior of the earth resulting in earthquakes, tsunamis, volcanic eruptions, etc.

Types of Natural Disasters :-

- 1) Earthquake 2) Flood 3) Cyclone
- 4) Droughts 5) Landslide 6) Volcanic Eruption.

Let us discuss about the earthquake today :-

1) Earthquake :- It is one of

the most destructive natural disasters.

An earthquake is sudden shaking of the earth's crust.

It may be mild or violent. They may

occur at any time of the year, day or night with sudden impact.



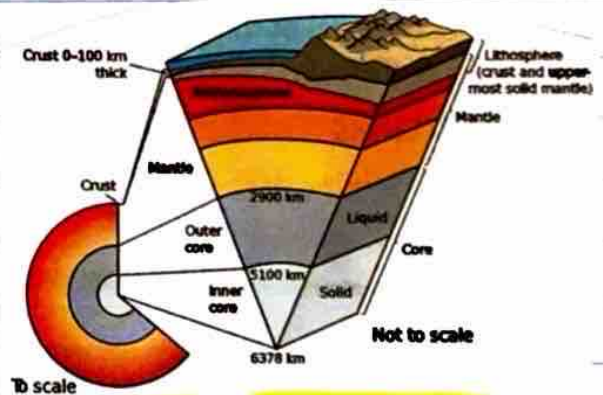
Destruction caused by earthquake in Gujarat

Causes of earthquake :- The earth's crust is made up of rocky layers of varying thickness. The crust is not one single piece but consists of portions called 'plates'. When these plates contact each other, stress arises in the crust. These movements of the plates

- 1) Pulling away from each other
- 2) Pushing against one another
- 3) Sliding sideways relative to each other

All these movements may cause earthquakes.

Fault :- The gaping hole which occurs as a result of an earthquake is called a fault. It can be the size of a small crack or the size of a swimming pool.



Earthquake - Movement of plates beneath the Earth

The Seismic Waves :- These are vibrations and movements that travel from the earthquake fault at very high speeds. The vibrations of these waves are what causes the most destruction during the earthquakes.

Focus :- The point where the plates rupture or shift is called the 'focus'. The point on the surface directly above the focus is termed as the 'epicentre' of the earthquake.

The vibrations of the earthquake are measured by an instrument called seismograph. The magnitude of the earthquake is measured by the Richter Scale. It measures the magnitude on a scale of 0 to 9.

Measures for safety

Following are some of the precautions that we should take:

- establishing earthquake monitoring centres for regular monitoring, information gathering, and identifying the earthquake-prone zones
- educating the people of the earthquake-prone areas about the ways and means by which the impacts of earthquake can be minimized
- making modifications in the designs of buildings in earthquake-prone areas to make them earthquake resistant
- discouraging construction of high-rise buildings and large industrial establishments in earthquake-prone areas
- ensuring that all apartments have an emergency exit in addition to the normal entry or exit points

Following are some safety rules we should keep in mind in case of an earthquake:

- People should move out to open spaces and stay away from any kind of solid structures, lamp posts, and electric transformers.
- People should move out through emergency exits and avoid elevators.
- If stuck inside the house, people should take shelter under a table or desk.