
SOME NATURAL PHENOMENA

EARTHQUAKE



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Introduction

We will learn about :

- ⦿ Earthquake- the disturbance inside the earth which causes massive destruction to human property and their lives.
- ⦿ Causes of earthquakes
- ⦿ What are tectonic plates
- ⦿ How are the seismic waves measured
- ⦿ Destruction caused by earthquake
- ⦿ Precautions to be taken

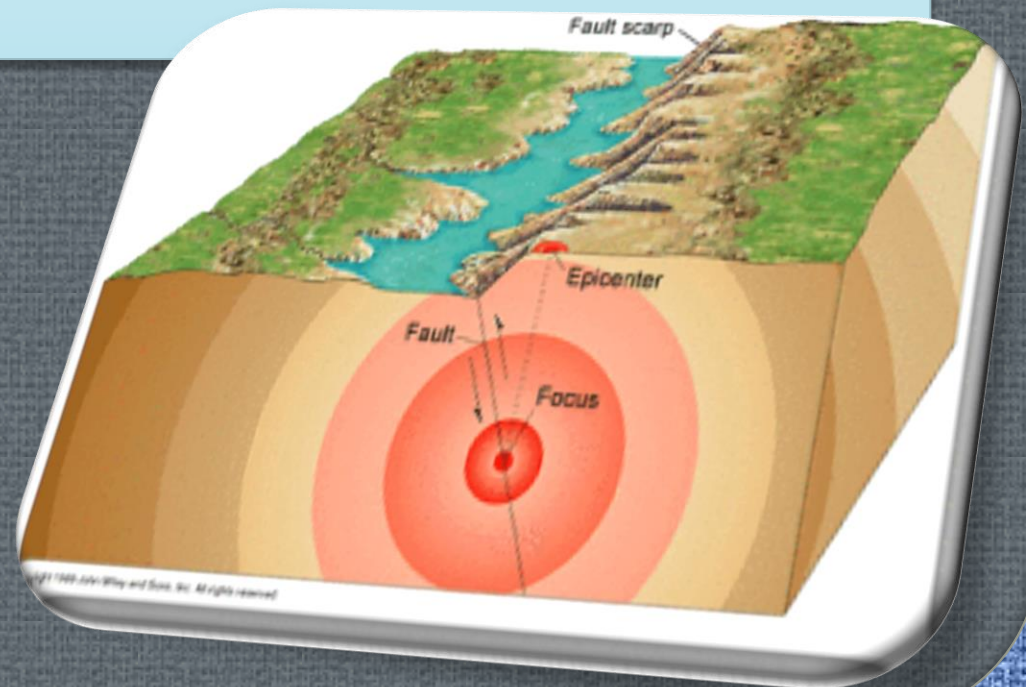


WHAT IS AN EARTHQUAKE ?

- An earthquake is a geological event inside the earth that generates strong vibrations when tectonic plates start rubbing against each other. When the vibrations reach the surface, there is a rapid shaking of earth which causes earthquakes, often causing damage to natural and man made objects, and sometimes killing and injuring people and destroying their property.
- Example of a place where earthquake occurred is Japan in 2011.

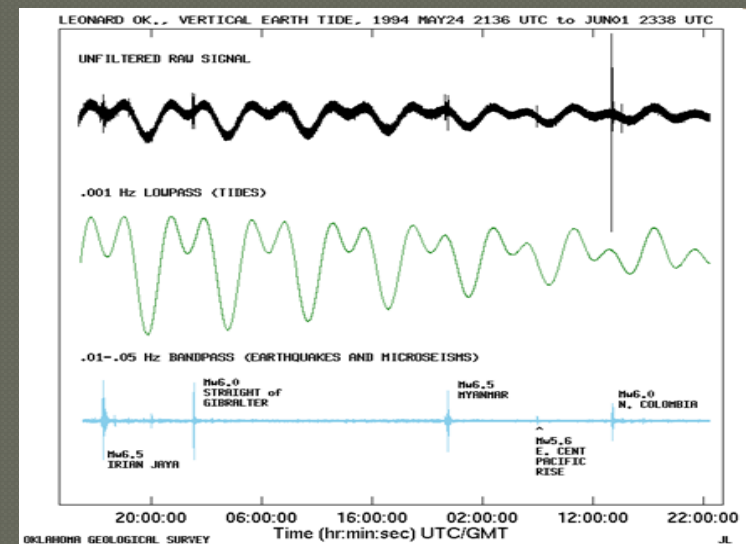
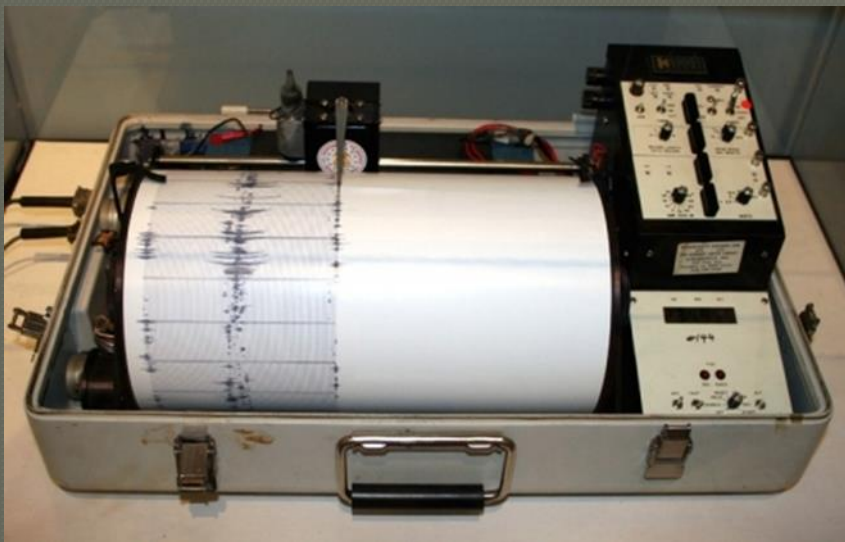


- ◎ The tremors produce waves on the surface of the earth. These are called seismic waves which cause disturbance in the Earth's crust. The place from where an earthquake originates is called seismic focus. The vertical point above the seismic focus is called epicenter.



The instrument used to measure the seismic waves is called a seismograph and the branch of science which deals with the study of earthquakes is called seismology .

The magnitude of earthquake can be measured on a scale called Richter scale. This scale was invented by Charles Richter California, USA 1935 which categorises an earthquake on the basis of energy.



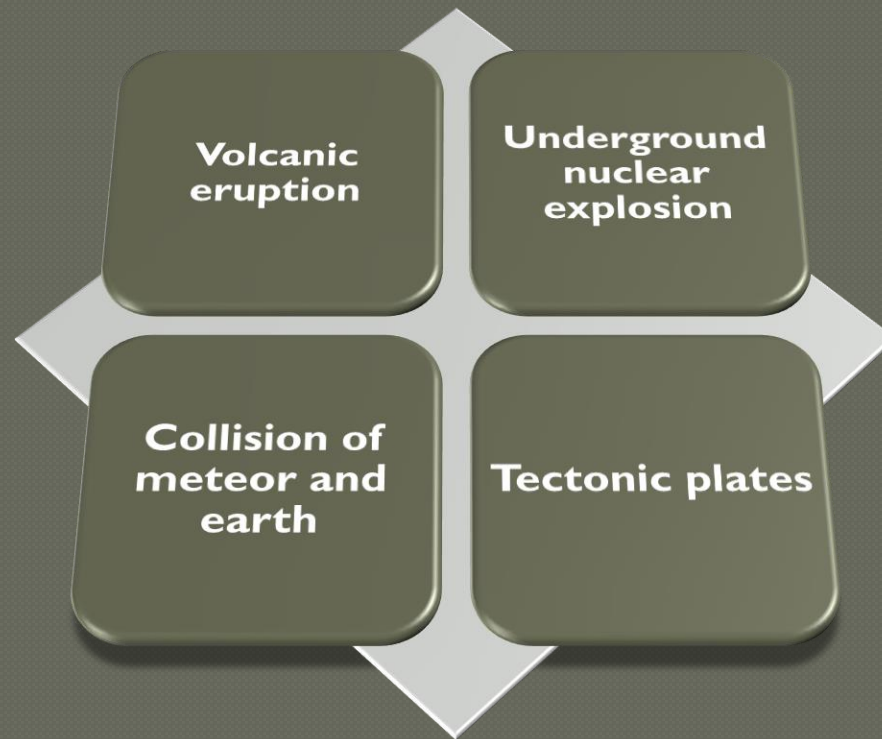
Tectonic Plates

Most earthquakes are caused by the movement of plates called the tectonic plates. The boundaries of the plates are the weak zones where earthquakes are more likely to occur.

Fault -- the place where two plates meet.

Fault Zones- The weak zones are also known as fault zones.

Causes



Impact On Human Life

- An earthquake causes injury and loss to life. It destroys roads, buildings, general property, bridges, etc. The aftermath may bring lots of diseases, lack of basic necessities, and higher insurance premiums. After earthquake, many other hazards may take place like tsunami, volcanic eruption, cyclones, etc.

Damages Caused By Earthquake

Loss of life and property

Damage to infrastructure

Damage to Transport system ;Highway, Bridges Airport, Marine, Road, Railway.

Chances of floods – Embankments, Dams can develop cracks

Economic activities like Agriculture, Trade and Transport are severely affected.

It can change the whole landscape.

Can uproot electric poles, telephone wires and tress.

Protection Against Earthquake

- Install latches on cupboard doors to prevent them from opening during a quake
- Use non-skid shelf liners for kitchen and bathroom cupboards, medicine cabinets and closet shelves.
- Store heavy items or glassware in lower cabinets so they do not become dangerous projectiles.
- Secure large appliances such as refrigerators, water heaters, air conditioners and other bulky items with straps, bolts and other stabilizing methods.
- Be sure both old and new buildings meet earthquake construction requirements.
- Do not put heavy artwork, mirrors or shelves over beds.
- Firmly secure bookcases, artwork, mounted televisions and other objects to withstand as much shaking as possible.
- Prepare an earthquake emergency kit with non-perishable food, bottled water, copies of important documents (birth certificates, prescriptions, insurance papers, etc.), flash lights, first aid materials, blankets, spare glasses and other essential items and store it from where it will be easily accessed in case of a earthquake.

Earthquake Safety Rules

☐ If you are in a house :

- ☐ Take shelter under a table and stay there till the shaking stops.
- ☐ Stay away from tall and heavy objects that may fall on you.
- ☐ Don't use lift for getting down from the building.

☐ If you are in a shop, school or office :

- ☐ Do not run for an exit
- ☐ Take cover in a table or desk
- ☐ Move to corner or side walls
- ☐ Move away from window glasses
- ☐ Do not go near electrical points and cables
- ☐ Stay away from the weak portion of the building and false ceiling

❑ If you are outside ;

- Avoid high buildings, walls, power lines and other objects that could fall and create a block.
- Do not run through streets.
- If possible, move to an open area away from hazards including trees.

❑ If you are in vehicle ;

- Stay in an open and safe place.
- Remain inside the vehicle.
- Close windows, doors and vents

After An Earthquake

- **keep calm** and ensure that others do the same. Prevent any panic situations.
- Check the condition of water, gas and electricity conduits, both visually and by smell.
- **Do not use the telephone.** Only do so in the event of an extreme emergency. **Turn the radio on** to receive information or instructions from the authorities.
- **Be careful opening cupboards** —some objects may have been left in an unstable position.
- Do **not** repair damage immediately, except if there is any broken glass or bottles containing toxic or inflammable substances.

After An Earthquake (continue)

- Put out any fires. If you cannot control it, contact the fire brigade straight away.
- After a very violent tremor leave the building wherever you are.
- Keep away from damaged buildings. Move to open areas.
- After a strong earthquake, other smaller aftershocks follow which may cause additional destruction, especially to damaged buildings. Stay away from such buildings .
- Take care when using tap water since it may be contaminated. Drink bottled and boiled water.
- If the epicentre of a large earthquake is at sea, it may cause a tidal wave. Stay away from beaches.

THANK YOU