

Differentiate b/w occurrence of lunar and solar eclipse

Solar and lunar eclipse

The eclipse is an astronomical event in which one celestial body covers the other celestial body. This happens when one eclipse object comes between observer and eclipse body.

1. Lunar Eclipse overview

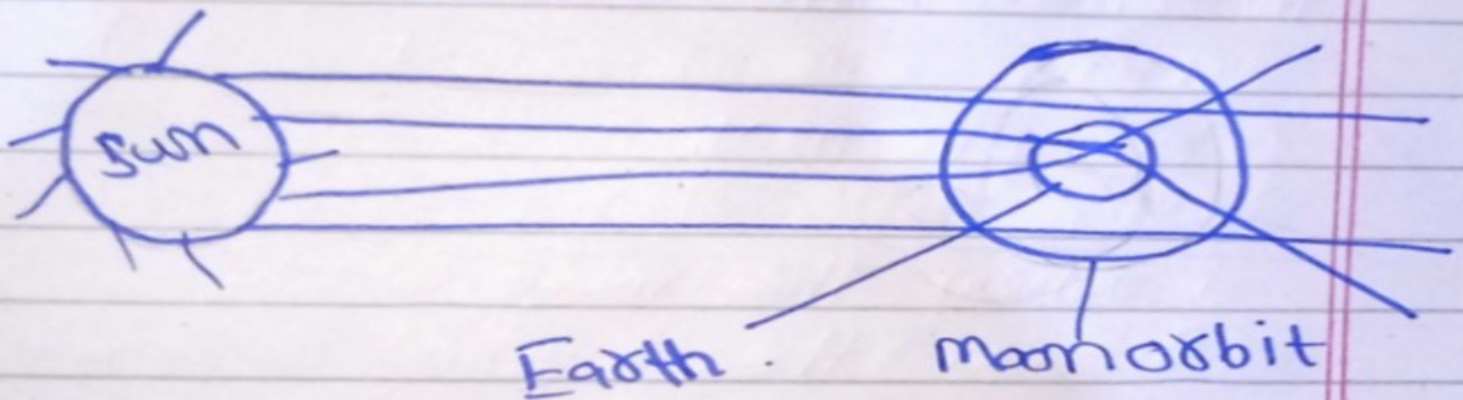
Moon is a cool and rocky body about 2160 in diameter. Moon has no light but shine by sunlight from its surface. Moon moves around the earth once every 29 days and hours. The moon orbits around earth and changing its position with respect to sun cause the natural satellites to cycle through phase. Eclipse occurs at full moon or a partial moon when moon passing through the shadow of (light) Earth. It is composed of two-cone shaped which nested one another. The Penumbra Zone in which the earth blocks but not all the rays reaching

from sun. in umbra zone light reach the moon.

1- Lunar Eclipse

when the earth between the moon and sun. The rays of sun don't reach the moon. it is called lunar eclipse.

1.2 Lunar Eclipse



1.3 Type of Lunar Eclipse

There are three types of

Lunar Eclipse

(1) Penumbra Eclipse

(2) Umbra Eclipse

(3) Total Eclipse

(i) Penumbra Eclipse:

it is the eclipse when

Moon passes through penumbra eclipse

it is academic type only because they are subtle to ^{hard} see.

1.5. Partial Eclipse

When the moon partially passes through Earth, it is an Eclipse when the partial part of sun is eclipsed and half is visible.

1.6 Total Eclipse

When the complete moon passes through Earth, it is quite striking due to brilliant red color of moon.

2. Solar Eclipse definition

When the moon between Earth and Sun the rays of light do not reach the Earth, it is Solar Eclipse. It occurs when the Sun and moon have same size. It has three types.

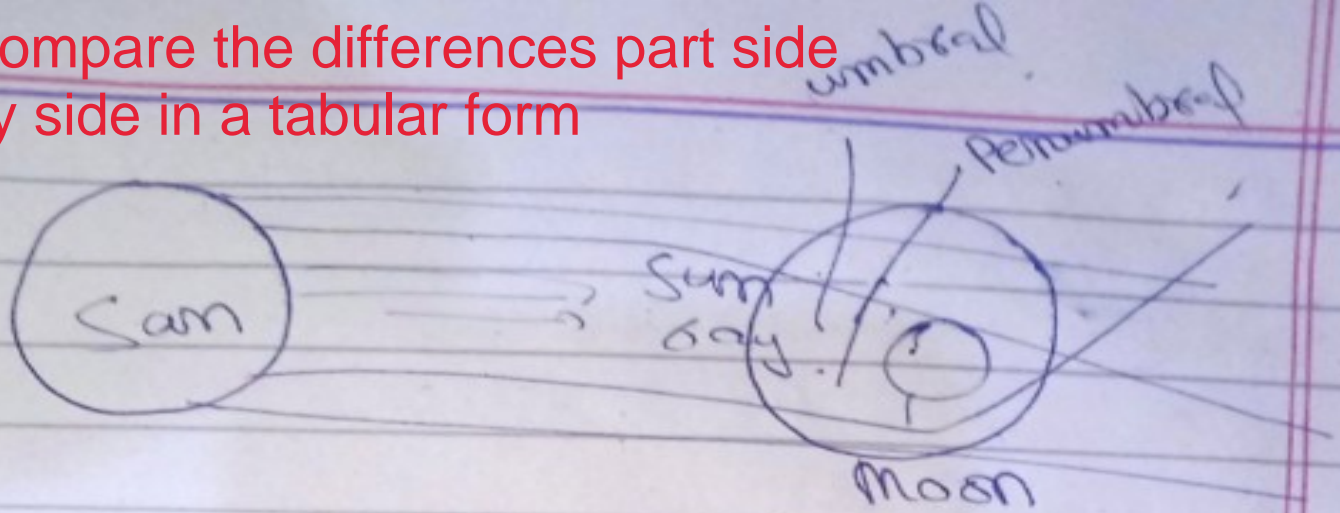
2.1 Types of Solar Eclipse

- (1) Partial eclipse
- (2) Total eclipse
- (3) Annular Eclipse

2.2 Partial Eclipse

It is imperfect alignment that moon covers the Sun disk. It is called partial eclipse. It is visible in wide areas.

Compare the differences part side by side in a tabular form



2.3 Total Eclipse

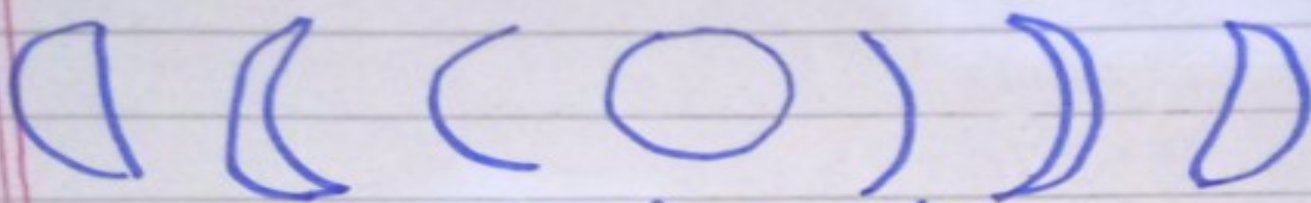
It is perfect alignment moon completely covers the disk of sun it is rarely occur because sometime size of moon is too small it is visible in some areas (kilometers). it is also called totality.

2.4 Annular Eclipse

The moon move around the earth. but not round shape. it is in oval shaped. it varies in diameter through 215000 to 252000. and 13%. Varies from the volume due to its shape. when it is near the orbit moon size large it is total eclipse and when far from orbit it size small it is not covers sun disk. umbra not reach the earth.

How to total Eclipse occurs?

More arguments needed



Total Eclipse

Hybrid Eclipse

it is another type of another eclipse. in which total eclipse or annular eclipse occur when the ~~distance~~ distance of Earth being different points from Umbra shadows. First hybrid Eclipse occur 2005 and other is 2013.

Conclusion

- (1) Lunar Eclipse occur due to movement earth and earth passes through moon and sun and sun light not reaches the moon.
- (2) in Solar Eclipse occur due to moon passes through earth and sun and covers the sun disk. cause Solar Eclipse

Q

Briefly Explain what effect are produce due to rotation and revolution of Earth?

(1) Rotation and Revolution of Earth

1- Introduction

During May, June, July the northern hemisphere ~~exposed~~ to more direct sun. Because the hemisphere faces sun. The passing year can bring changes to the weather and surrounding environment. The four seasons - autumn, spring, winter and summer can vary significantly in characteristics and prompt change around them.

(1.1) Season

These are four seasons according

to astronomical event.

1.2 Summer

it is the hottest time of the year. The temperatures increase and may to their hottest of the year. if it is spike too hot, cause heat wave and drought can effect the humans, animals and plant.

1.3 Autumn

The temperature begin to cool. The plant begin to grow dormant and animal prepare themselves for cold weather and store food and may travel in warmer places.

1.4 Winter

it is the coldest time in which most region experience ice or snow. and most only see cold rain. Animals find way to warm themselves and changed their appearance to adapt.

1.5 Spring

in this season the seeds take root and vegetation begin

to grow. it is the warmest temperature animal wake-up and move to hot climate often with newborn.

2. Astronomical Season:

The astronomers and scientists use the dates of equinox and Solstice to measure beginning of season in a year. According to astronomy, they form four season

2.1 Spring

March equinox and
~~June~~ June solstice.

2.2 Summer

~~June~~ June solstice and September equinox.

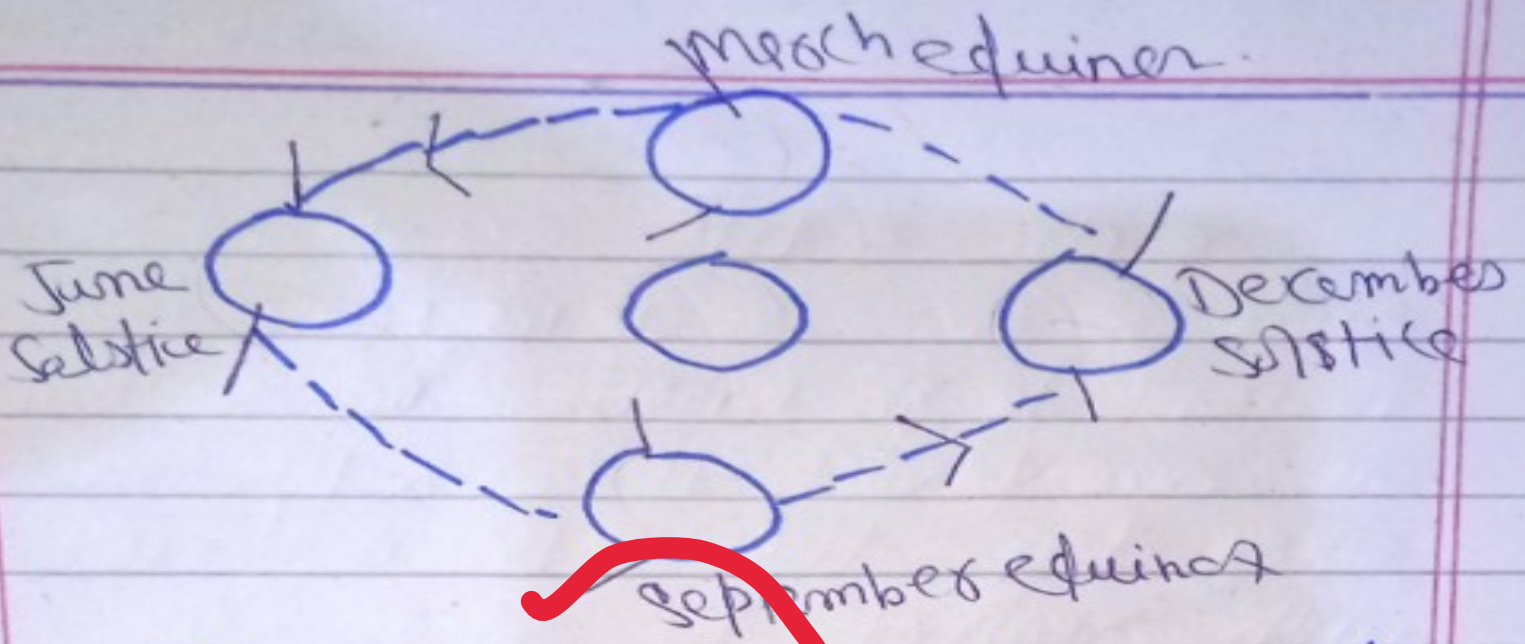
2.3 Fall / autumn

September equinox and December solstice.

2.4 Winter

December solstice and
march equinox

Equinoxes and Solstice



3 Difference between Equinox and Solstice.

Relate your headings to the qs statement

Solstice

is an astronomical event that occurs twice in a year in which day is too long (summer) and day is too small in winter. In which Earth's orbit around the Sun is far away from its greatest distance. It is characterized by extremely long night and short day.

Equinox

is in which Earth's orbit around the Sun is not far away. The event occurs twice when Earth's equator passes through the Sun, and light from the Sun directly on the equator.

What phenomenon occur?

Rotation of earth:

earth rotate around the sun it is a imaginary line passes through North and South in our planet. it is rotate one every day. the rotation of earth with respect to stars are called Sidereal. it is about 24 hours Sidereal and 23 hours and 53 minutes. the orbit around sun is 24 hours. the earth $\frac{1}{365}$ away from around the sun. There is a small difference between sidereal and solar time

Time of our clocks is based on rotation of earth. the season tilt due to rotation 23.4 degree. and the earth rotate 360 degree to change the day and night.

4 orbit

it is a gravitation orbit of an object in a point space.

Example Stars orbit the planets

4.1 Types of orbit.

- (1) Circular
- (2) elliptical.

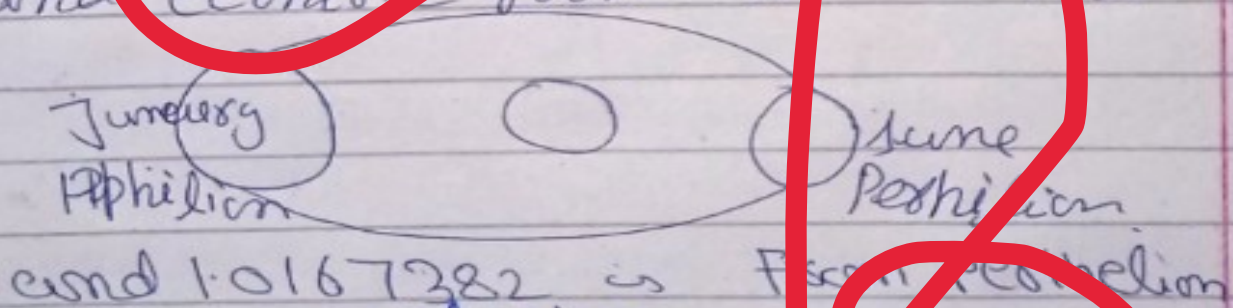
4.2 Circular

The earth moves around the Sun. It is a fixed movement of object around the orbit.

4.3 elliptical

in which earth moves and other planets around sun. it is oval shaped.

The Aphelion is far away from sun and perihelion close to sun. The distance is 0.167832 and eccentric from sun 2.412.



conclusion

The movement of earth is responsible for change of weather time and years.

Q
What is an earth quake? Discuss Richter Scale in this context. What was the intensity of earth quake in Pakistan dated 26 October 2015 and where was the locus?

(3) Overview / Key Points of earth quake.

It is ~~caused~~ due to movement of tectonic plates. The point where the earthquake rupture starts are called focus.



Defination

The suddenly shaking and falling of earth is called earthquake. It occurs daily around the world but it is too mild to be neglected. (about 8000 earthquakes occur every year).

2 TYPE of the Earthquake.

There are two types of earthquakes.

(1) Shallow earthquake.

(2) Deep earthquake.

2.1 Shallow earthquake

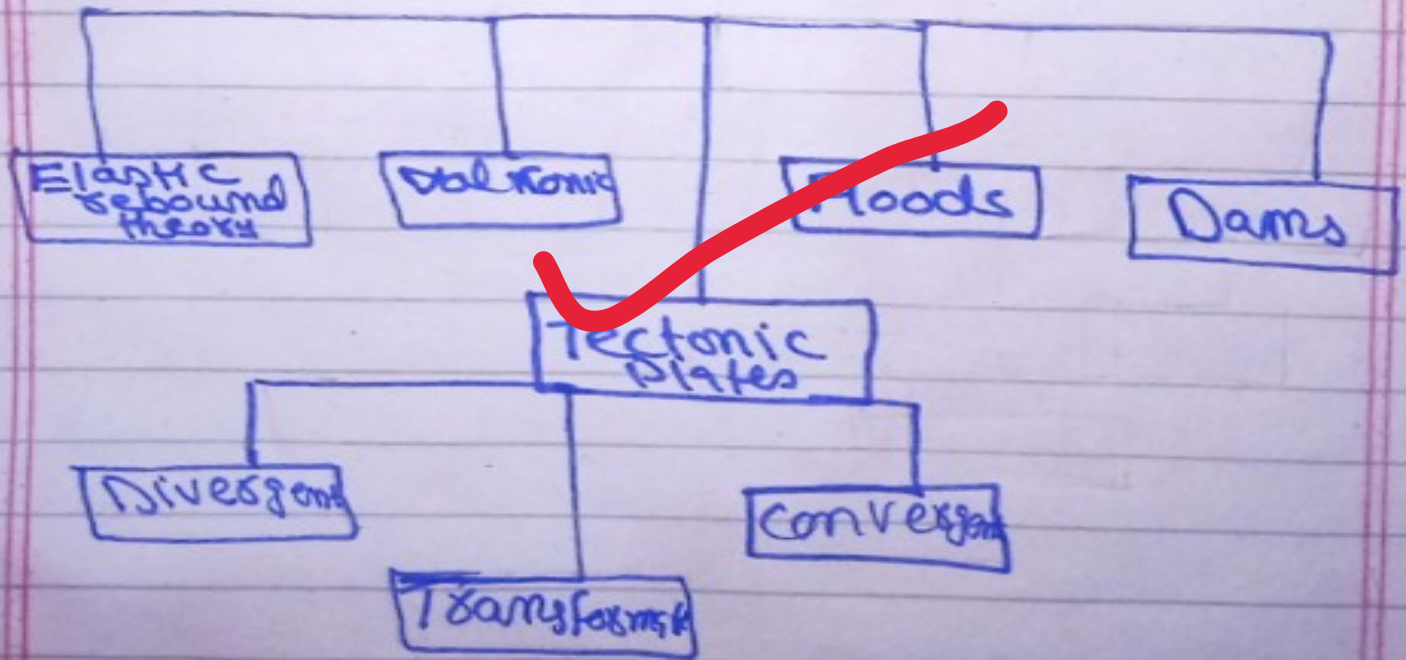
The shallow earthquake occurring in the "Crustal" due to fault and movement of continental plate. These earthquakes are deep surface with their epicenters. They are deep and cause greatest damage at the surface of earth. They occur quite frequent and at random. However, their magnitude is low due to "shallow" and most of them are not felt. Nevertheless 75% of the energy release from earthquakes are shallow ones.

2.2 Deeper earth quake

The deeper earthquake is "inter

Plate. which is occurring due to subducting oceanic plate which brings the continental plate. The are occur due to tectonic plate come towards each other. followed by subduction or when the massive olivine is in transactional phase This is sub-ductional zone or highly ~~seismically~~ ^{seismically} active zone. form a pattern wadstii Benioff zone. High magnitude and energy released during earthquake.

Causes of Earth Quack

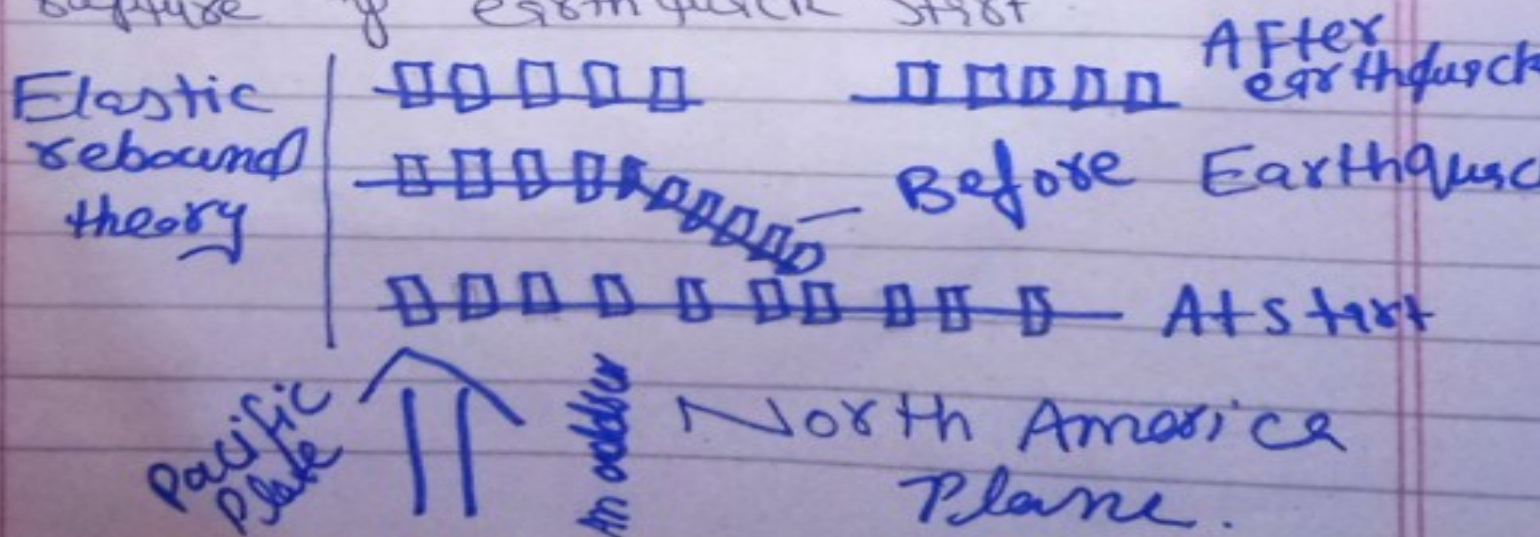


3.1 Elastic Rebound theory

Elastic rebound theory is presented by Henry fielding Ried in 1906. He was a professor of geology in Johns Hopkins gave theory. that if the Rubber is stretched it cut or breakdown energy is release after the stretched. Same as the earth crust after the earthquake energy release. most of the earthquake occurs due to previous energy store energy.

3.2 Tectonic Plates

Earth is not uniform. they have huge block meet one another these huge block are called Tectonic Plate. in Tectonic Plate have intense energy around around the boundary. called Focus After a year Tectonic Plates move and create a weak point called Focus. in which rupture of earthquake start.

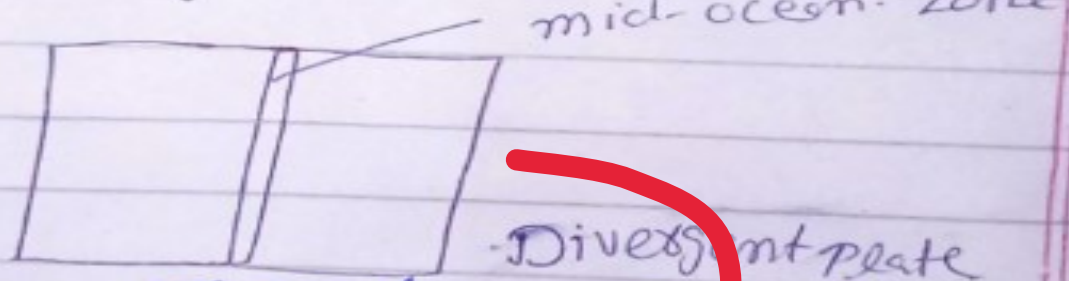


3.2 Convergent Plate

Plates come toward each other either one is collisional and other is Subductile Zone. The upper plate is oceanic push the downward the mantle it begin to melt.

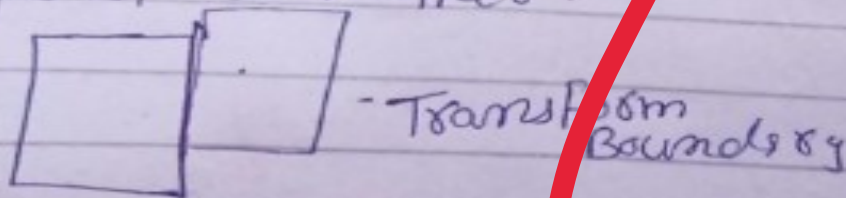
3.3 Divergent Plate

When both the plate are apart from each other. Earth wide area are shake. The lava is spews along the fissures and geysers and super heated water. Beneath the rift, molten the rock rises from mantle.



3.4 Transform Boundary.

When boundary of both plates jump against each other.



3.5 Volcanic activity.

Volcanic activity cause earthquake

due to magma rise in volcanic chambers push the plate and cause earth quake

3.6 Dams

Long time water store in dams increase pressure underlying rock which cause the rocks break and sudden vibration cause earth shake.

3.7 other causes

land sliding, Emission of water vapour under high pressure and bomb explosion etc.

4- impacts of Earth quake on human?

Earth quake effects human health. it cause injuries, trauma and dead.

Example

earth quake of 2 October 2005 in Kashmir magnitude 7.6 effect the thousands of people.

5- Richter scale

The logarithmic scale used to measure the strength and energy of earth quake. seismic wave

Add more details in this part

are measure which transmit the energy release by Earthquake.

26 October 2015 Earthquake

its region is Pakistan and Afghanistan. its magnitude is 7.5 and 80km from the center of Jajjarzbad region of Hindu Kush.

4.3 Can earthquake predict in advance??

→ No, there is not currently possible to predict the region and occurrence of earthquake.

5 Conclusion

Earthquake occur movement of tectonic plates and its effect on human and earth also. it cause the destruction of building and destruction of dead of thousands peoples.

