

In this chapter, we will study about the lighting and Earthquakes.

SOME NATURAL PHENOMENA

Lightning : A Natural Phenomenon

- During heavy rains and thunderstorms, we sometimes notice brief spark in the sky. These sparks are called lightning.
- Lightning is caused by accumulation of electric charges in the rain clouds.
- To protect from lightning flashes, lightning conductor is used.

Lightning Safeties outside the House

- (i) During thundering and lightning, scooters are not safe. So, during lightning we have to leave such vehicle and take shelter.
- (ii) During thunderstorms, we should avoid carrying an umbrella over our head. It is due to reason that lightning may strike the top end of the metal rod of umbrella and harm us.
- (iii) If we are in forest, then we should take shelter under shorter trees as a short tree is less likely to be hit by lightning.
- (iv) If in case, no shelter is available and we are in an open field, then kindly stay away from poles and other metal objects and do not lie on the ground. Instead, squat low on the ground. Place hands on the knees with head between the hands because this position will make us the smallest target to be struck.

Lightning Safeties inside the House

- (i) Any contact with telephone cords, electrical wires and metal pipes should be avoided during a thunderstorm.
- (ii) Mobile phones and cordless phones should be use.
- (iii) Bathing should be avoided during thunderstorms, in order to avoid contact with running water.
- (iv) Even the electrical appliances like computers, TVS, etc., should be unplugged. Electrical lights can remain on. They do not cause any harm.

Lightning Conductor

A device which is used to protect buildings from the effects of lightning is known as lightning conductor. It is made up of a thick strip of metal. The top end of lightning conductor is pointed which is fixed above the highest point of the building.

Earthquakes

As we read in previous classes about cyclones and thunderstorm, these natural phenomena can cause the destruction at large scale to human life and property. These natural phenomena can be predicted in advance to some extent so that we can get some time to take some precautionary measures in order to protect

ourselves and minimise the damage to life and property.

Presently, there is one natural phenomenon which is not predicted accurately till now. It is an earthquake. Hence, earthquake is a destructive natural phenomenon which cannot be predicted in advance.

Tsunami

Tsunami is a type of earthquake under the ocean floor which generates powerful sea waves. These kinds of waves travel across the ocean at speed upto about 1000 km/h and can be 30 m or more high. Tsunami occurs in a frequent manner in the Pacific ocean.

- As, earthquakes are caused by the movement of plates, the boundaries of the plates are the weak zones where earthquakes are more likely to occur.
- On Richter scale, the intensity of an earthquake is usually measured. On this scale, a series of numbers from 1 to 12 are written which are used to express the power of earthquakes.
- The seismic waves are those waves which are produced by tremors on the earth surface. These waves are recorded by an instrument called the seismograph.
- By studying about seismic waves, scientists can construct a complete map of the earthquake and also calculate its power to cause destruction.

PRACTICE EXERCISE

1. Lightning conductor
 - (a) destroys the building
 - (b) protects the building
 - (c) does not affect the building
 - (d) None of the above
2. Lightning occurs due to
 - (a) rain
 - (b) wind
 - (c) electric discharge
 - (d) None of the above
3. Lightning conductors are used to protect from
 - (a) lightning flashes (b) earthquake
 - (c) cyclones (d) thunderstorms
4. Where is the lightning rod attached to protect the building from lightning?
 - (a) On the top of building
 - (b) In the middle of building
 - (c) On the bottom of building
 - (d) All of the above

- # Answers

[illegible]