

Board –CBCE

Class –8th

Topic – Some Natural Phenomena

EACH QUESTION 1 MARKS

1. Why do two charged bodies attract or repel?

Ans. When the two bodies have the same charges, they repel each other, and when the two bodies have different charges, they attract each other.

2. Sometimes, a crackling sound is heard while taking off a sweater during winters. Explain.

Ans. This crackling sound is heard because the sweater gets charged due to friction between the hair and sweater.

3. What is meant by the static electricity?

Ans. The electrical charges generated by rubbing is called static electricity.

4. What is meant by earthing?

Ans. The process of transfer of charges from a charged object to the earth is called earthing.

5. When does a body become discharged?

Ans. When a body loses its charges, it is said to be discharged.

6. What is a lightning rod?

Ans. A lightning rod is a device used to secure tall buildings from the effect of lightning.

7. What is an earthquake?

Ans. An earthquake is a sudden shaking or trembling of the earth.

8. What causes an earthquake?

Ans. The earthquake's tremors are caused by the disturbance deep down inside the uppermost layer of the earth called the crust.

9. What are seismic waves?

Ans. The tremors produce waves on the surface of the earth, known as seismic waves.

10. Name the instrument used for recording seismic waves.

Ans. Seismograph.

EACH QUESTION 2 MARKS

1. Explain why a charged body loses its charge if we touch it with our hand.

Ans. When we touch a charged body with our hand, the body is earthed. This causes the charges to flow to the earth, and the body loses the charge.

2. List three states in India where earthquakes are more likely to strike.

Ans. Three states in India where earthquakes can occur are Gujarat, Rajasthan and Jammu & Kashmir.

3. The weather department has predicted that a thunderstorm is likely to occur on a certain day. Suppose you have to go out on that day. Would you carry an umbrella? Explain.

Ans. No, I would not carry an umbrella. The charges produced during a thunderstorm can flow through the umbrella and harm us.

4. When a charged plastic straw is brought near a charged plastic straw, there is repulsion between them. What type of charge exists between them?

Ans. The charge on both the plastic straw is the same since charges repel each other.

5. When a charged balloon is brought near a charged refill, there is an attraction between the two. What type of charge exists between the two?

Ans. The charges on the balloon and a refill are different because, unlike charges attract each other.

6. Why is the charging by rubbing known as plastic electricity?

Ans. Charging by rubbing is known as static electricity because the charges do not move.

7. Give the difference between static electricity and electric current?

Ans. In static electricity, the charges do not move. In electric current, there is a flow of charges.

8. When is lightning seen?

Ans. When the negative charges from the clouds and the positive charges on the ground meet, bright light and sound produce a huge amount of energy. This is seen as lightning.

9. During thunderstorms which place is the safest?

Ans. During a thunderstorm, a house or a building is the safest place.

10. Is the car safe during a thunderstorm?

Ans. Yes, the car is safe during a thunderstorm with windows and doors of the vehicle shut.

EACH QUESTION 3 MARKS

1. Name the scale on which the destructive energy of an earthquake is measured. An earthquake measures three on this scale. Would a seismograph record it? Is it likely to cause much damage?

Ans. The destructive energy of the earthquake can be measured on the Richter scale. Yes, an earthquake measuring three would be recorded by the seismograph. This earthquake would not cause much damage.

2. Suggest three measures to protect ourselves from lightning.

Ans. We can protect ourselves from lightning by

(a) Switching off and disconnecting all heavy electrical appliances.

(b) Not bathing under running tap water.

(c) Not standing near metallic poles.

3. Explain why another charged balloon repels a charged balloon whereas an uncharged balloon is attracted by another charged balloon?

Ans. A charged balloon has the same charge as another charged balloon, so there is repulsion between them because charges repel each other. On the other hand, an uncharged body always attracts a charged body. Therefore, an uncharged balloon is attracted by a charged balloon.

4. How does an earthquake occur?

Ans. An earthquake is the sudden shaking of the earth caused by deep layers of rocks inside. The plates under the earth slide over one another, bringing about the disturbance of the earth's surface. This disturbance is the earthquake.

5. Apart from disturbance inside the earth, what are the other reasons for an earthquake?

Ans. Earthquakes can also occur due to underground nuclear explosions, when a volcano erupts, or when a meteor hits the earth.

6. What are weak zones?

Ans. Since the movements of plates cause earthquakes, the boundaries of the plates are weak zones where earthquakes are most likely to occur.

7. What earthquakes cause useful changes?

Ans. Earthquakes can also cause new islands, coal breaches and freshwater springs to emerge due to upheaval.

8. Name the weak zones in India?

Ans. The weak zones in India are Kashmir, Western and Central Himalayas, the whole North East, Rann of Kutch, Rajasthan and the Indo-Gangetic plain. Some areas of South India also fall in the danger zone.

9. Explain the working of a seismograph.

Ans. The seismograph consists of a vibrating rod that starts vibrating when tremors occur. A pen is attached to the vibrating rod and records the seismic waves on a paper which moves under it.

10. In highly seismic areas, which material should be used for the construction of houses?

Ans. In highly seismic areas, the use of mud or timber is better than heavy construction material. The roofs should be made as light as possible. If the house falls, the damage will not be heavy.

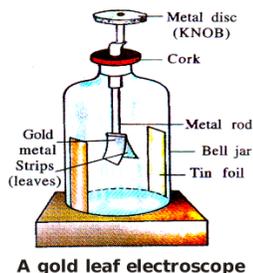
Each Question 5 Marks

1. Suppose you are outside your home and an earthquake strikes. What precaution would you take to protect yourself?

Ans. If you are outdoors and an earthquake strikes, some precautions we should take to protect ourselves:

(i) Leave your building and move to open areas.

- (ii) Keep away from high rise buildings.
- (iii) Keep away from trees, signboards, electric poles.
- (iv) If you are in a vehicle, remain inside it.



2. Describe with the help of a diagram an instrument that can detect a charged body.

Ans. An electroscope is an apparatus to test an electric charge.

Conclusion: An electroscope has a brass rod passing through a tight-fitting cork in a glass bottle. A pair of thin gold leaves are attached to the lower end of the brass rod. To protect the gold leaves from external electric charge, the lower half of the bottle is lined with tin foil which is 'earthed' by connecting it to the table. This kind of electroscope is called a gold leaf electroscope.

Working: When a charged rod is touched to the metal disc, the charge is transferred to the gold leaves, diverging.

3. What steps should be taken to protect yourself in case of an earthquake at home?

Ans. If you are at home :

- (i) Do not stand near windows.
- (ii) Lie in bed.
- (iii) Do not stand near heavy objects that may fall on you.
- (iv) Stay under a table till the earthquake stops.

4. During a thunderstorm which places are safe?

Ans. During a thunderstorm, a house or building is the safest place. If you are travelling by car or by bus, you are safe inside with the windows and doors of the vehicle shut.

5. During a thunderstorm, which places are unsafe if you are outside?

Ans. If you are outside :

- (i) Open vehicles, like a motorbike, tractor are not safe.
- (ii) Carrying an umbrella is not a good idea.
- (iii) Stay away from poles or other metal objects.
- (iv) Do not lie on the ground.