

NCERT Solutions For Class 8 Science Chapter 15: Chapter 15 of NCERT Solutions for Science Class 8 Here are some examples of natural phenomena for the benefit of the students. The solutions to the questions in the textbook are included in this solution, along with additional questions and their answers, sample problems, worksheets, practice questions, and helpful hints.

These NCERT Solutions for Class 8 cover topics such as types of charges, characteristics of charged elements, the electroscope and its applications, lightning and thunder concepts, earthquakes and their measurement, earthquake prediction, awareness of areas at risk from earthquakes, and safety measures to be taken in the event of a natural disaster like an earthquake.

Solutions can assist students in resolving their questions and gaining an engaging understanding of the material. Students can use these solutions to assist them respond to the most frequently asked questions on the CBSE Class 8 final exam. Expert teachers have created the NCERT Solutions for Class 8 Science for this chapter to aid students in comprehending the material.

NCERT Solutions For Class 8 Science Chapter 15 Overview

When used in combination with the textbooks, the NCERT Solutions for Class 8 Science Chapter 15 - Some Natural Phenomena offers comprehensive solutions to all of the chapter's questions, making it an invaluable tool for test preparation.

Students acquire knowledge about the scientific causes, explanations, and safety precautions for natural phenomena including thunderstorms, earthquakes, and lightning by exploring these fascinating events. With the help of these NCERT Solutions, you can have a comprehensive understanding without consulting other books.

Here we have provided some of the topics covered in this chapter -

- Lightning
- Charging by Rubbing
- Types of Charges and Their Interaction
- Transfer of Charge
- The Story of Lightning
- Lightning Safety
- Earthquakes

NCERT Solutions For Class 8 Science Chapter 15

Select the correct option in Questions 1 and 2.

1. Which of the following cannot be charged easily by friction?

- (a) A plastic scale**
- (b) A copper rod**
- (c) An inflated balloon**
- (d) A woolen cloth.**

Soln:

The answer is (b) A copper rod.

Friction charges only non-conducting materials readily. Copper is a very conductive substance. Thus, friction cannot readily charge a copper rod.

2. When a glass rod is rubbed with a piece of silk cloth, the rod

- (a) and the cloth both acquire a positive charge.**
- (b) becomes positively charged while the cloth has a negative charge.**
- (c) and the cloth both acquire a negative charge.**
- (d) becomes negatively charged while the cloth has a positive charge.**

The answer is (b) becomes positively charged while the cloth has a negative charge.

Two items that are rubbed against one another pick up opposing charges. Conventional law states that the fabric takes on a negative charge while the rod gains a positive charge.

3. Write T against true and F against false in the following statements.

- (a) Like charges attract each other. (T/F)**
- (b) A charged glass rod attracts a charged plastic straw. (T/F)**
- (c) Lightning conductors cannot protect a building from lightning. (T/F)**
- (d) Earthquakes can be predicted in advance. (T/F)**

a) False: Similar charges repel one another, but unlike charges attract one another.

b) True: The glass rod has a positive charge on its surface, whereas the charged plastic straw has a negative charge. They are attracted to each other because unlike charges attract one another.

c) False: A lightning conductor directly transfers atmospheric charges to the earth when lightning strikes. As a result, lightning cannot harm the building.

d) False - Although the causes of the earthquake are understood, no devices have been developed to identify them beforehand. Earthquakes can therefore not be forecast in advance.

4. Sometimes, a crackling sound is heard while taking off a sweater during winter. Explain.

The friction between the woolen jumper and the body causes it to become charged when we remove it. There is a crackling sound as a result.

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

When we touch the earth, the charges are carried through our bodies to the soil, whereupon the conductor loses its charge. We call this phenomenon electric discharge.

6. Name the scale on which the destructive energy of an earthquake is measured. An earthquake measures 3 on this scale. Would it be recorded by a seismograph? Is it likely to cause much damage?

The Richter scale is used to quantify an earthquake's destructive force. The scale displays a number between 1 and 10.

A seismograph would register an earthquake with a magnitude of 3.

Damage from a scale of 3 magnitude would be minimal. A five-magnitude earthquake is regarded as destructive.

7. Suggest three measures to protect ourselves from lightning.

There are several strategies to shield ourselves against lightning.

(i) Stay in a confined space at all times. If you're in a car, keep the windows closed and stay there until the lightning passes.

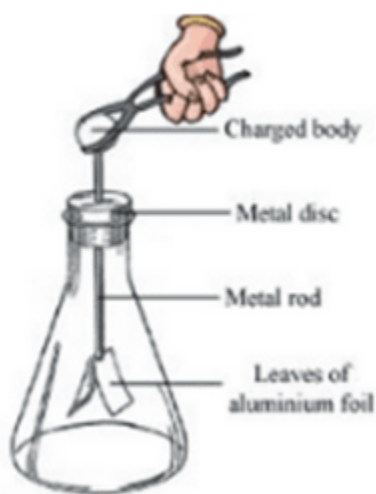
(ii) Avoid coming into contact with any electrical, phone, or metal pipes.

(iii) You should never take a bath in running water since this could shock you.

8. Explain why a charged balloon is repelled by another charged balloon, whereas an uncharged balloon is attracted by another charged balloon.

The balloons are rejected because of the same kind of surface charge. A charged balloon obtains charges that are opposite to those of an uncharged balloon when it is brought close to an uncharged balloon through the induction of charges. The charged balloon attracts the uncharged balloon because dissimilar charges attract each other.

9. Describe with the help of a diagram an instrument that can be used to detect a charged body.



It is made up of a metal rod with a metal disc at one end and two aluminum foil leaves attached to one end. To keep the leaves safe from the ambient air, they are stored within a conical flask that has been corked.

The aluminum leaves separate from one another when a charged body makes contact with the metal disc because the metal rod conducts some of the charges that are transferred to the aluminum leaves. We refer to this procedure as charging via conduction. Aluminum leaves repel each other because the charges on the leaves and the charged body are of the same sort. They would be drawn to one another if the bodies were not charged.

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

Gujarat, Assam, and Jammu & Kashmir are the three states where earthquakes are more likely to strike.

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

When an earthquake occurs, you should take the following safety measures:

- (a) Locate an open field, keeping all structures, trees, electric wires, and poles at a distance.
- (a) If you are driving, pull into an open field and stay inside the vehicle.

12. 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.

No, it's not advisable to use an umbrella when it's thunderstorming. Lightning is present during the thunderstorm, and the charges from the cloud may transfer to the umbrella's metal rod, shocking the person holding it. Thus, it is not advisable to use an umbrella when lightning is present.

Benefits of NCERT Solutions For Class 8 Science Chapter 15

- **Concept Clarity:** NCERT solutions provide clear explanations and solutions to all the questions, ensuring that students grasp the concepts thoroughly.
- **Exam Preparation:** By solving NCERT questions, students get a good grasp of the important topics and types of questions that may appear in exams.
- **Enhanced Understanding:** Detailed explanations provided in the solutions help students understand the underlying principles and mechanisms behind various natural phenomena.
- **Self-Assessment:** Students can assess their understanding by solving the questions and comparing their answers with the solutions provided. It helps in identifying areas that need more focus and practice.
- **Improved Performance:** Regular practice using NCERT solutions can enhance students' confidence and performance in exams as they become familiar with the question patterns and concepts.
- **Supplementary Learning:** The solutions often provide additional information and insights beyond the textbook, enriching students' knowledge base.

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