

Reading 10

Lightning is a dramatic electrical discharge that occurs during thunderstorms. It forms when charged particles within a cloud separate into distinct regions of positive and negative charge. Ice crystals and water droplets collide as they move through turbulent air, generating static electricity. Over time, the lower part of the cloud becomes negatively charged while the upper portion accumulates positive charges.

When the difference in charge becomes large enough, the atmosphere can no longer act as an insulator. A narrow channel of ionized air, called a “stepped leader,” begins moving downward from the cloud in a series of rapid, branching steps. As it approaches the ground, positively charged particles rise to meet it. When the two streams connect, an intense electrical current flows, producing the bright flash we recognize as lightning.

Although cloud-to-ground lightning is the most familiar type, the majority of lightning actually occurs within clouds. Scientists continue to study lightning because many aspects of its formation remain unclear, including the precise processes responsible for separating charges within storm clouds.

Questions

- 1. What is the primary focus of the passage?**
 - A. The dangers of thunderstorms
 - B. The process by which lightning forms
 - C. The history of lightning research
 - D. Methods used to prevent lightning
- 2. According to the passage, what initiates the bright flash of lightning?**
 - A. The first collision of ice crystals
 - B. The stepped leader reaching the top of the cloud
 - C. The connection between descending and rising charges
 - D. The moment the storm cloud forms
- 3. The term “insulator” in paragraph 2 most nearly refers to something that:**
 - A. produces electricity
 - B. blocks electrical flow
 - C. absorbs light
 - D. increases temperature

4. **What can be inferred about lightning research?**
- A. Much is still unknown about how charges separate in clouds.
 - B. Scientists fully understand all aspects of lightning.
 - C. Lightning within clouds cannot be studied.
 - D. It is no longer considered an important field.
5. **How does the author organize the information?**
- A. By comparing lightning in different countries
 - B. By explaining the sequence of events that leads to lightning
 - C. By listing tools used in meteorology
 - D. By presenting several unrelated facts

ANSWERS: BCBAB

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