



ACTIVITY TIPS

A Little Lightning

This advanced activity simulates lightning by producing miniature “lightning bolts.” It appears in the section *Fire in the Sky*.

Materials

- 1 balloon

Setup

This activity works best on a cold, dry day. It is best if done in a room that’s pitch dark.

Objective

By building up and discharging electric charges, students will learn how electric charges can build up on an object, but that an object doesn’t stay charged forever.

Questions and Answers

1. When you move your finger toward the balloon, what do you see and hear?

Students should see little sparks where their finger contacts the balloon. They should hear crackling noises.

2. Describe how electric charge builds up and is discharged in this activity.

Electric charge builds up when the balloon is rubbed against hair and picks up extra electrons. This charge gets discharged when you bring your finger close to the balloon, because then the excess electrons on the balloon jump back to your body.

3. How far away is the storm if you hear thunder:

- 10 seconds after you see the flash? 2 miles
- 15 seconds after you see the flash? 3 miles
- 2.5 seconds after you see the flash? $\frac{1}{2}$ mile