

# Indoor Lightning



**Materials for each pair:**

- a piece of notebook paper or a sheet of plastic, such as a transparency sheet
- two or three flat pieces of metal, such as a 12" x 12" square of aluminum foil folded into a flat disc, the top of a metal can, or the bottom of an aluminum pie pan (Be careful with sharp edges.)
- a piece of wool cloth (mittens or pieces of a sweater work well)
- a stopwatch or a clock with a second hand

**Procedure**

Do this activity on a dry day.

- 1** Partner 1: Position the paper on a flat surface and hold it in place while watching the clock for partner 2.
- 2** Partner 2: Rub the paper with the wool, using quick firm strokes, for at least 45 seconds, then place one piece of metal on the center of the sheet of paper.
- 3** Partner 1: Lift the paper off the surface.

- 4** Partner 2: Touch the metal.
- 5** Watch the spark. Repeat the entire process using a different piece of metal.

Type of metal	Length of time rubbed paper	Observations

**Analyzing the Results**

- 1** Compare the sparks from the different pieces of metal. Which piece makes the biggest spark? What happens if you rub the paper for a longer time?
- 2** What are other ways that you can make static electric sparks in the classroom?
- 3** How is this illustration of electrons in lightning related to the experiment you conducted?

