

Experiencing Charged Matter

Name _____

Class _____

Date _____

Chapter 8 Part 1

► It is not obvious that electrons and protons are basic units of matter. However, you can observe evidence that charged particles are part of matter. Obtain two pieces of plastic tape about six inches long. Fold over a half inch of each piece to form a nonsticky handle. Stick the two strips smoothly to your desktop. Pull up both tapes simultaneously and slowly move the nonsticky sides of the tapes toward each other. Do not allow the tapes to touch each other. Observe what happens. Stick the upper ends of the tapes separately to the edge of your desk while you make a drawing of the two tapes when they were close to each other (Drawing 1).

Stick one tape to the surface of your desk. Stick the second tape on top of the first. Pull the tapes up together and separate them. Observe what happens when you bring the nonsticky sides toward each other. Make a second drawing that shows your observations (Drawing 2).



Drawing 1



Drawing 2

1. Describe what happened when you brought the tapes together as shown in Drawing 1.
2. What happened when you brought the tapes together as shown in Drawing 2?
3. Can you tell whether a tape has a positive or a negative charge?
4. When a tape is pulled from your desk, how would the tape acquire a positive charge?
5. How would a tape pulled from the desk acquire a negative charge?
6. Relate your findings in this activity to the work of J. J. Thomson and the Thomson model of the atom.

Real World Connection

A spark jumps from your hand to the doorknob after you walk across a carpet. Two wool blankets crackle with electricity as you try to separate them on a winter's night. Static cling in your clothing is a dry-weather nuisance. What other evidence have you seen that matter contains charged particles?