Name:_____.

Investigating Electric Charges

In this investigation, you will electrically charge a variety of substances and identify some properties of electric charges.

Question

How are uncharged and charged substances affected when they are brought near one another?

Prediction

(a) Predict what will happen when you bring a charged object near an uncharged object.

_____.

_____.

_____.

Observations

Record your observations in the table below.

Electric charge test	Effect on scraps of paper	Effect on stream of water	Effect on the pith ball
Ebonite rod rubbed with fur			
Lucite rod rubbed with silk or polyester			

Analysis and Conclusion

(b) Was your prediction correct? Based on your observations, explain why, or why not.

_____.

_____.

(c) Compare the results of the investigation for the ebonite and Lucite rods on the scraps of paper, water stream, and pith path.

_____.

_____.

(d) What happens when charged objects are placed near uncharged objects?

(e) What happens to the force of attraction between charged and uncharged objects as the distance between them decreases?

(f) List the properties of electric charges you have identified in this investigation.

Making Connections

1. Describe a test that you could perform to determine whether an object is charged or uncharged.

2. How do you think an anti-static dryer sheet works? Explain in terms of electric charges.

3. Why do you think people get shocks after they drag their feet on a rug? Explain in terms of electric charges.

4. Use the chart below to identify three situations in which you experienced the effects of static electricity. In the second column, write down the materials you believe might be responsible for producing the static electricity.

Static electricity example	Materials 'responsible'