

Name: _____

Date: _____

Electrostatics Lab

Objective: To observe and describe some basic interactions between charged particles

Procedure:

Part A:

1. Obtain two green sticks, a small piece of felt or wool, string, and plastic wrap. Place a pole in the table top and attach a second pole to it so that it is parallel to the table. Suspend one stick from a string attached to a metal pole. Bring the end of the second stick near one end of the hanging stick. Answer question one.

Part B:

2. Rub one end of each stick vigorously with different materials, as described below:

Ques #	Suspended stick	Object 2
2	Rubbed with felt	Second stick rubbed with felt
3	Rubbed with felt	felt
4	Rubbed with plastic wrap	Second stick rubbed with plastic wrap
5	Rubbed with plastic wrap	Wrap used to rub the tube
6	Rubbed with plastic wrap	Second stick rubbed with felt

Part C:

3. Replace the suspended tube with a piece of aluminum foil suspended from dental floss. Rub the green stick with a piece of felt or wool. Predict what will happen when you bring it near the foil. Describe your results in question 8.
4. Place an aluminum can on the table top. Rub the green stick with a piece of felt or wool. Predict what will happen when you bring it near the foil. Describe your results in question 9.
5. Place some seeds on the table top. Predict what will happen when you bring it near the foil. Describe your results in question 10.

Part D:

6. Use the electroscope for this exercise. The electroscope is made of a vertical metal rod with a metal top protruding from a glass enclosure; a piece of plastic prevents electric charge from going to the metal rod and metal leaves at the bottom of the cylindrical enclosure, which is usually metal. Follow instructions from the chart below:

Ques #	Action
11	Rub a green stick with any material and then rub the top of the electroscope with the green stick.
12	Touch the top of the electroscope with your hand.
13	Rub the top of the electroscope with a rubbed green stick, remove the stick, and then touch the top of the electroscope with your hand while wearing a plastic glove.

Data:

1. Is there any interaction?

Complete the chart for step 2

Ques #	Observation
2	
3	
4	
5	
6	

7. Is there a pattern you notice with regards to attraction/repulsion?

8. Was your prediction correct? Why did you observe this?

9. Was your prediction correct? Why did you observe this?

10. Was your prediction correct? Why did you observe this?

11. Explain your observation.

12. Explain your observation.

13. Explain your observation.