

Experiment 13

DATA SHEET

Name: _____

Section: _____

A. Observations

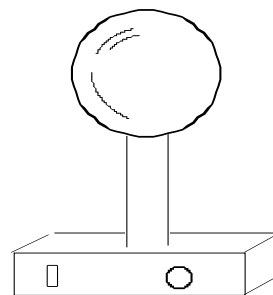
1. Describe one of the special effects or demonstrations performed with the generator by your T.A.

2. What happens to the negatively charged pith ball? _____

3. What is the charge on the Van de Graaff generator? _____

How do you know? _____

Complete the drawing of the generator with field lines after observing the string's reaction to the generator. Be sure to put in arrows for direction!!



What happens to the pie pans when they are placed on top of the generator? Why?

Part B:

4. a. What happens when you bring the negatively charged rod near the pith ball? _____

b. What happens when you let the ball touch the rod? _____

c. Explain the behavior of the ball you recorded in a and b. _____

5. What happens to the pith ball while the ball is just near the disc? _____

6. What happens immediately after the pith ball makes contact with the disc? _____

7. Describe the motion of the ball as you bring the positively charged disc near the negatively charged ball. _____

8. What happens to the pieces of foil in the electroscope when you bring the negatively charged rod near to the sphere? _____

9. What happens to the pieces of foil when you let the rod touch the sphere? _____

10. What happens to the pieces of foil when you touch the sphere with your finger? _____

11. After you have given the electroscope a negative charge, what happens to the pieces of foil when you bring the positively charged rod near? _____

12. What is the sign of the charge on the Teflon disc after you rub it on your clothes? How do you know your conclusion is fact? _____

QUESTIONS

- 1) If the sign of the charge on the ebonite rod is negative, as determined by Benjamin Franklin, what then is the sign of the resulting charge on the fur with which the rod was rubbed?

What is the basis for your conclusion?

- 2) How do you explain the positive charge on the disc of the electrophorus?

- 3) Does the Van de Graaff generator behave like the ebonite rod or the disc of the electrophorus? Why?