

Science 10-Electricity & Magnetism

Activity 1

Experiment on Static Charges



10

Name _____	
Due Date _____	
Show Me <input type="checkbox"/>	Hand In <input type="checkbox"/>
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Purpose:

To observe the effects of statically charged materials on one another.

Procedure:

1. Obtain a graphite coated ball attached to a thread. Tie it to a ring stand as is shown in Figure 3.1 on page 43 of Science Probe. This is called an **electroscope**.
2. Select 5 or 6 different objects (combs, rulers, acetate strips etc.) from the tray. Rub them with different types of cloth, paper or fur and bring them close to your electroscope. If you are not sure of the type of cloth (cotton, wool, polyester etc.), ask someone for help. See if they *attract*, *repel* or have *no effect* on the graphite coated ball. Record the observation for each trial as you do it. Use the following table:

Object	Rubbed with:	Effect on Electroscope

- Take a clean piece of paper towel and vigorously rub a clear acetate strip with it. The acetate strip is now positively charged. Rub the charged acetate strip all over the surface of the graphite coated ball. The ball now has a positive charge. Now, recharge the acetate strip by rubbing it with fresh paper towel.

Bring the positively charged acetate strip close to (but not touching) the positively charged ball. Record your observation below:

The positive acetate strip and the positive ball (attract/repel) _____ each other.

- Now take various objects rubbed with various types of cloth, paper and fur and hold them near the positively charged ball. Observe the effect of each trial and record in the table below: If you are not sure of the type of cloth (cotton, wool, polyester etc.), ask someone for help.

Object	Rubbed with:	Effect on Positively Charged Ball

Summary:

Come up with a short summary of the results of this experiment. See if you can see some patterns in the observations.