

Sec: _____ Name: _____

Experiment: Electrical Charges
(E. Science 9-2-2a)

Purpose: To use friction to produce electrical charges, and to demonstrate that opposite electrical charges attract while similar electrical charges repel.

Materials: 2 balloons silk scarf
 glass rod (solid) string, 70 cm
 water electrostatic generator

Note: Similarly charged bodies repel one another; oppositely charged bodies attract one another.

Methods: **Part A:**

1. Blow up the two balloons. Tie a balloon at each end of the piece of string.
2. Rub each balloon with the silk. (THE SILK CAUSES THE GLASS TO LOSE ELECTRONS AND THE RUBBER BALLOON TO GAIN ELECTRONS). Hold the string in the center and let the balloons hang free.
3. Record your observations under results part A. Note if the balloons are touching each other or if they remain apart. Label the charges that are present on the balloons.

Part B:

1. Cut the string close to one balloon.
2. Rub a balloon with the silk again. Place the balloon on the floor.
3. Let the silk touch the balloon. Lift the balloon as high as possible. Record (in results part B) if you could lift the balloon, and if so how high. Draw the silk and the balloon, and for each indicate the charges that are on each.

Part C:

1. Turn on the water in the sink. Let it run in a gentle stream.
2. Rub the glass rod with the silk. (FRICTION CAUSES THE SUBSTANCES RUBBED TOGETHER TO GAIN OPPOSITE ELECTRICAL CHARGES, SILK RUBBED ON GLASS CAUSES THE SILK TO GAIN NEGATIVE CHARGES). Bring the glass rod close to the stream of water. Record your observation under results part C. Record the charges of the water and the glass.
9. Have a volunteer place a hand on the electrostatic generator and turn it on. Record.

Results: **Part A**

Part B

Part C

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Electrostatic generator observations: _____

