

Electrostatic Project

Static electricity can appear to us in many different forms. Many times it is a harmless discharge of electrons and on rare occasions a big potential difference in the charge can cause significant harm to us *Homo sapiens*.

This project has **two objectives** that each student will perform prior to lab:

First is to construct a device that will accumulate a static electricity charge.

Second is to construct a device that will detect a static electricity charge.

Part I – The Electrophorus Apparatus

I. Research and construct an electrophorus apparatus. Include in your typed write-up:

1. Materials list.
2. Construction procedures.
3. Operating/ testing procedures

II. Pre-lab Observations:

1. Did you hear any sounds while you were charging the electrophorus apparatus? If so, describe the sound.

2. Did you notice or feel any weird sensations notice any strange smells while working with your electrophorus apparatus?

3. Charge and work with your electrophorus device in a **totally** dark room. That means **NO** light. That also means a **total absence** of photon energy. Get the picture? Write your observations.

III. Pre-lab Analysis:

1. What did you use for a source of the charge for the electrophorus apparatus?

2. How does this charge come about?

3. Define triboelectrification.

PART II – The Electroscope

I. Research and construct an electroscope. Include in your typed write-up:

1. Materials list.
2. Construction procedures.
3. Operating/ testing procedures

II. Pre-lab Observations:

1. Charge a metal rod and bring near, then in contact with the electroscope. What did you observe?
2. Charge a non-metal rod and bring near, then in contact with the electroscope. What did you observe?

III. Pre-lab Analysis:

1. List and define two methods of charging the electroscope.

PART III – Static Electricity

Compose a paragraph defining, and describing the behavior of static electricity. Include a minimum of three examples we often encounter or observe in our homes or in nature.

Bring this paper TYPED and the two static electricity devices to class for continued experimentation. Cite all references in MLA format.

This project will count as a test grade, a lab grade and a daily grade. A maximum grade of 50 will be awarded to late projects and lab work.

Do not plagiarize, or copy or your grade will be a zero. Be sure your work is your own.

