

Electrostatics Introduction

GROUND YOURSELVES

A meme featuring Ned Stark from the TV show Game of Thrones. He is shown from the chest up, wearing his signature brown fur-lined cloak and holding a microphone. A dog's head is visible in the bottom right corner of the image. The text "GROUND YOURSELVES" is at the top, and "STATIC ELECTRICITY IS COMING" is at the bottom. A small "quickmeme.com" watermark is in the bottom right corner of the image.

**STATIC ELECTRICITY IS
COMING**

S1-03-01 Demonstrate evidence for the existence of two types of charge

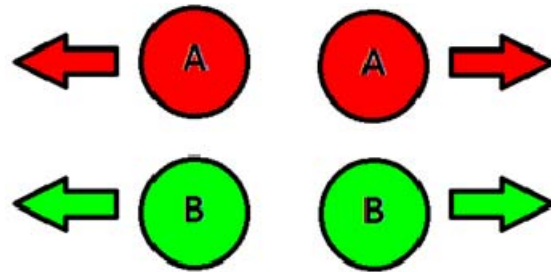
Static Intro...

Scientists discovered that when they rubbed different MATERIALS against each other, they ATTRACTED other MATERIALS.

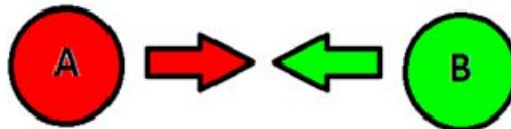
→ they called these materials "CHARGED"

They arranged these charged materials into 2 groups, let's call them "A" and "B". They found that:

- Objects in the same group REPEL each other:



- Objects in opposite groups ATTRACT each other:



Static Intro...

Knowing this information, they created a MODEL to explain the behavior in each of the groups. They said that:

“A” has one type of charge, and “B” has another.

Later, BEN FRANKLIN added to this model by saying that the charges were NEGATIVE (-) and POSITIVE (+).

He rubbed amber and fur together and said that the amber became NEGATIVE and fur became POSITIVE.

The greek work for amber is ELEKTRON!!!

→ Today, we call the negative particles in the atom electrons!



Law of Electrostatics...

This model lead to the Law of Attraction and Repulsion:

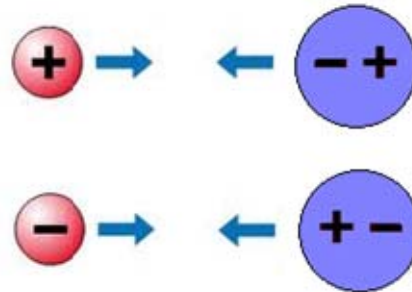
1. *Unlike charges attract one another.*



1. *Like charges repel one another.*



2. *Charged objects attract neutral ones.*



An object is NEUTRAL if it has EQUAL amounts of POSITIVE and NEGATIVE CHARGES