electrons when they come into contact with a different material through friction as seen in Figure 1.

When you rub the balloon on your hair, some of the electrons from your hair are transferred to the balloon.

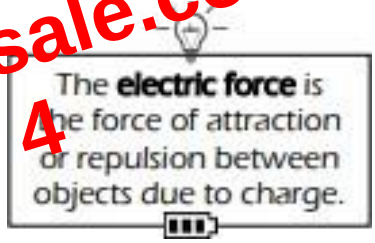
This means that your hair lost some electrons, thus, becomes positively charged while the balloon that gains electrons becomes negatively charged. This process involved is called **charging by friction.**

It is important to remember that during the charging process, ideally, the number of charge lost by your hair is equal to the number of charge gained by the balloon. This is generally true in any charging process. The idea is known as:

The Law of Conservation of Charge
Charges cannot be created nor destroyed, but can be transferred from one material to another. The total charge in a system must remain constant.

Electric Force

After you have performed Activity 2, you must have observed that your hair was drawn towards the balloon as if being pulled by an invisible force. This force is called electric force which acts on charges.



There are two kinds of electric force which arise from the fact that there are also two kinds of electrical charges. The interactions between the charges are summarized in the following law:

Electrostatic Law
Like charges repel and unlike charges attract.

Charging by Induction

Polarization

Polarization is the rearrangement of charges within a neutral object when it is placed near a charged object.