

Name _____

Date _____

West Islip Technology Department

Period _____

What is Static Electricity?

- The word **static** means at rest. **Electricity** can be at rest.
- A **static charge of electricity** can be generated by walking across a wool or nylon rug with plastic-soled shoes.
 - o Example # 1: After walking across a wool or nylon rug, you receive the surprising experience of **discharging** several thousands volts of static electricity to a metallic object such as a door handle. This occurs mainly on **cold** winter days when the humidity is low.
 - o Example # 2: A discharge of **static electricity** can also be experienced after sliding across the seat of a car covered with certain types of upholstery. The **friction** of your clothing on the seat leads to a discharge when you touch the ground and the metallic frame of the car at the **same time**.
- One of the fundamental laws in the study of electricity is the **law of charges**.
- The law of charges states that: “Like charges **repel** each other and unlike charges **attract** each other.”
 - o Example # 1: The power of **attraction** can be seen when you run a comb through your hair several times. The comb will attract some of the hair toward itself because of the unbalanced electrical charge created between the hair and plastic comb.
 - o Example # 2: The power of **repelling** can be seen when you try to place two objects together and they push away from each other.
- The field surrounding a charged body is called the **electrostatic** or **dielectric** field. The field can exhibit a positive or negative charge depending on a gain or loss of electrons.
- Charges can be transferred in two ways. One way is by **direct contact**. An example of this is when the body of a charged object touches the surface of another.
- Another way of transferring a charge is **induction**. This can be done by simply bringing a charged object close to another.