**Static Electricity!**

**Static Electricity**

* Accumulates on an object to form an electric \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Charges are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Static Electricity does \_\_\_\_\_\_\_\_\_ move through wires.

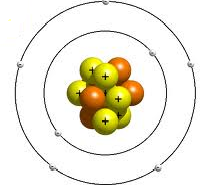
*Examples:* During thunderstorms – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When we empty the dryer – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* When different materials are rubbed together or bump into each other a lot, \_\_\_\_\_\_\_\_\_\_\_\_\_ leave one surface and collect on the other

*Examples:* - water droplets in a thunderstorm with high winds

- Socks rubbing against a carpet

**Electron Theory:**

* Matter is made up of \_\_\_\_\_\_\_\_\_\_\_\_
* Recall: 2 types of charges: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Each atom has a positive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that is surrounded by negative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Neutrons have \_\_\_\_\_\_\_\_\_ charge
* The\_\_\_\_\_\_\_\_\_\_\_ electrons can \_\_\_\_\_\_\_\_\_\_\_ around within the substance
* Some materials **gain** electrons and end up with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge
* Some materials **lose** electrons and end up with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge
* When a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object has more electrons than it can hold on to, they are suddenly released, creating a \_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| 1. Ebonite rod and Fur | 2. Friction causes the transfer of electrons from the fur to the ebonite rod | 3. The ebonite is charged negatively and the fur is charged positively. |

There are two kinds of materials:

* + 1. **Insulators**
       - If you rub an object, and the charge \_\_\_\_\_\_\_\_\_\_\_ on the spot where you rubbed, the material is called an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    2. **Conductors**
* If the charges \_\_\_\_\_\_\_\_\_\_\_\_ freely across or through the material, it is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are conductors.
* They \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hold a static charge.

**The Law of Electric Charges**

* Most objects are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (uncharged) because they have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number of ***positive*** and ***negative*** charges
* The Law of Electric Charges states that:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ both ***positively*** and ***negatively*** charged objects.

N = neutral

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**Homework:**