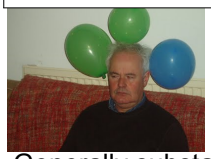
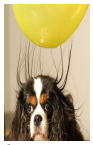
Static Electricity

Def: Is the temporary movement of electrons from one substance to another.





- Generally substances are found in a neutral state (same # of + and -). When electrons move from one substance to another the materials become charged.

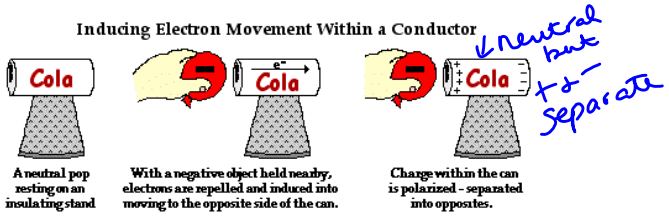
Bill Nye The Science Guy on Static Electricity (Full Clip).mp4

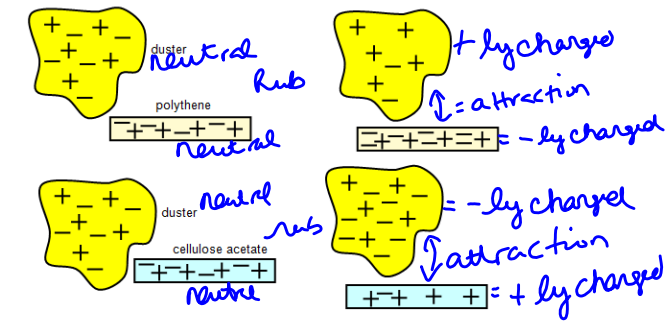
Static Electricity and Water.mp4

Rules

1. There is a **+** and a **-** charge.
2. Only **electrons** can move.
3. If a substance has more **protons** it is **positively** charged, if it has more **electrons** it is **negatively** charged.
4. To become neutral again a substance will lose or gain **electrons.**
5. Alike charges **repel**, opposites **attract.**
6. **Friction** (rubbing causes the electrons to be passed on.
7. *Touching passes on the charge.
8. A **charged** substance can attract a **neutral** substance because the protons will align with the electrons.

Examples





Electrostatic Series

P.146

- Gives a hierarchy of substances and their ability to lose and gain electrons.
- An object above another object will gain electrons from the ones below it.

Example

Plastic −

Gold −

Wood +

Cotton

Paper +

Glass

ability to gain e^-

Rub: plastic and wood

gold and paper

1- What happens if plastic and paper come close? attract

2- Gold and plastic? repel

3- Wood and paper? repel

*__Must memorize__: **plastic** will always gain electrons and be **negatively** charged. **Glass** will always **lose** electrons and become **positively** charged.

Attachments

Bill Nye The Science Guy on Static Electricity (Full Clip).mp4

Static_Electricity_and_Water.mp4

Bill_Nye_The_Science_Guy_on_Static_Electricity_(Full_Clip).mp4

What_is_Static_Electricity___(_Animation_).mp4