



# It's Electric!

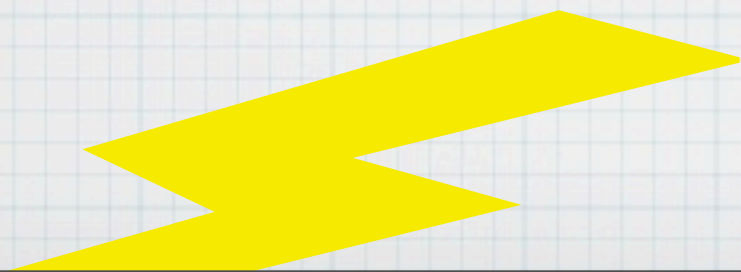
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Introduction to Electricity, Your First Look At Physics

# It's Electric!

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Introduction to Electricity, Your First Look At Physics



# Things to Remember . . .

- \* All matter is made up of atoms, all atoms have protons, neutrons and electrons
- \* According to the Bohr-Rutherford Model, protons and neutrons cannot move, electrons can
- \* If there is more electrons than protons: negative, of more protons than electrons: positive, equal protons and electrons: neutral
- \* Most objects we come across are neutral

# Characteristics of Electricity

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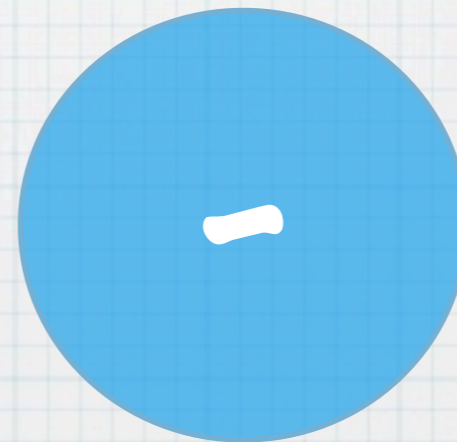
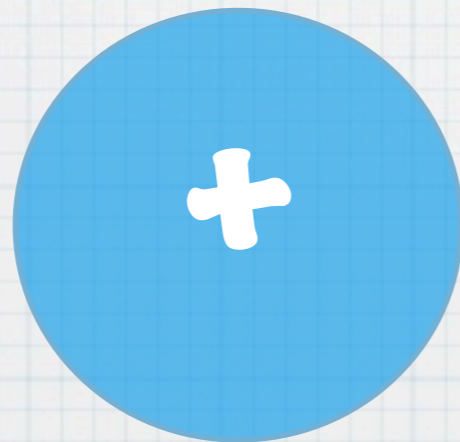


- \* **ELECTRICITY:** The study of charges moving.
- \* **ELECTROSTATICS:** The study of electrical charges at rest. (stationary charges)
- \* **STATIC ELECTRICITY:** Charges that remain stationary on the surface of a charged object.



# Types of Charges

- \* There are two types of charges, positive and negative. Neutral is not a charge.





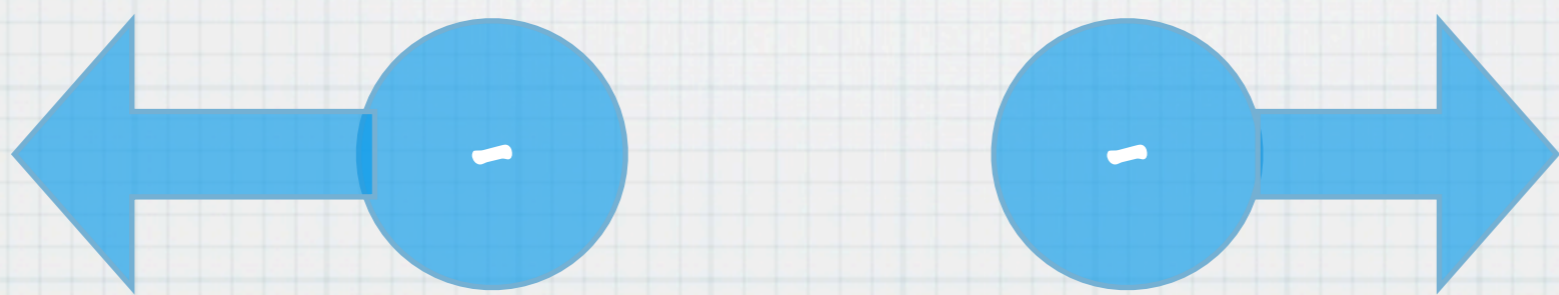
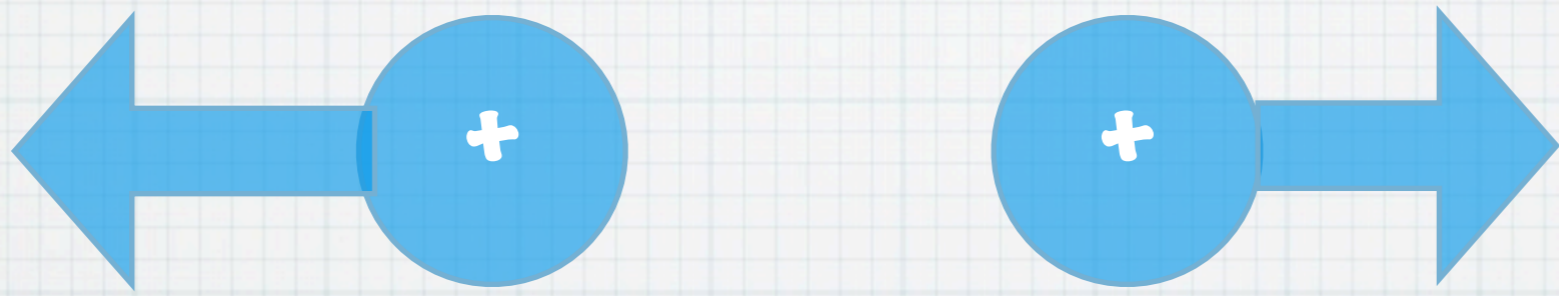
# The Law of Electric Charge

- \* 1) Like charges repel

Record this in  
your notes

# The Law of Electric Charge

\* 1) Like charges repel







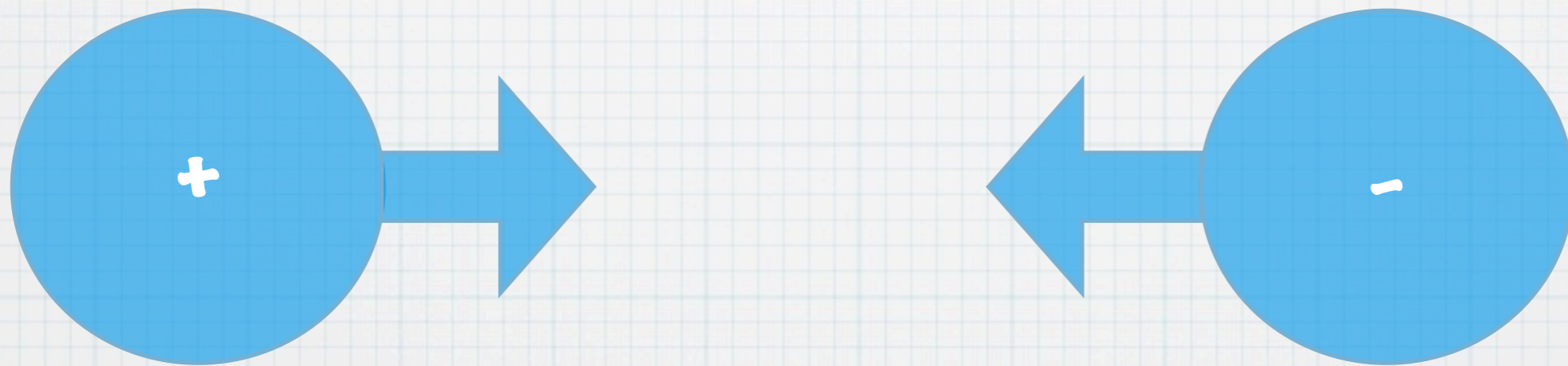
# The Law of Electric Charge

- \* 2) Unlike charges attract



# The Law of Electric Charge

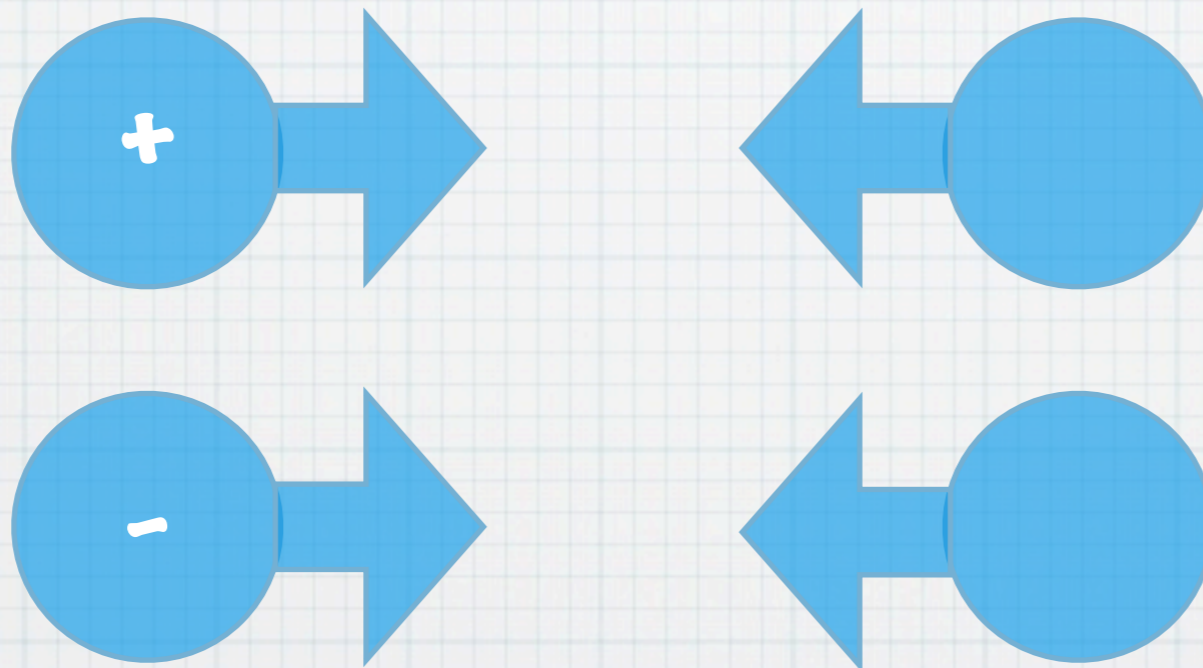
\* 2) Unlike charges attract





# The Law of Electric Charge

- \* 3) Charged objects attract neutral objects





# Insulators

- \* **Insulators:** are materials that do not allow a charge to flow freely on or through an object. (Most non-metals)
- \* **Insulator:** Cotton, fur, glass, paper, dry air, rubber, plastic



# Conductors

\* **Conductors:** are materials that do allow a charge to flow freely on or through an object. (Most metals)

\* **Conductor:** Aluminum, gold, silver, copper, water, Earth



# Static Electricity

- \* **Static Electricity: Charges remain stationary on the surface of an object**
- \* **Cause by the rubbing together of two objects**

## \* Example:

- \* You take off a sweater and your hair stands on end
- \* Explanation: The wool pulls electrons from your hair. This leaves your hair with a positive charge.
- \* Since like charges repel, individual strands of hair will repel each other.