

# ENERGY

- \* Energy causes changes
- \* Energy causes motion

## Moving Water (H<sub>2</sub>O) \* a source of energy

Mechanical Energy  
of  
Moving Water

Turns  
Generators

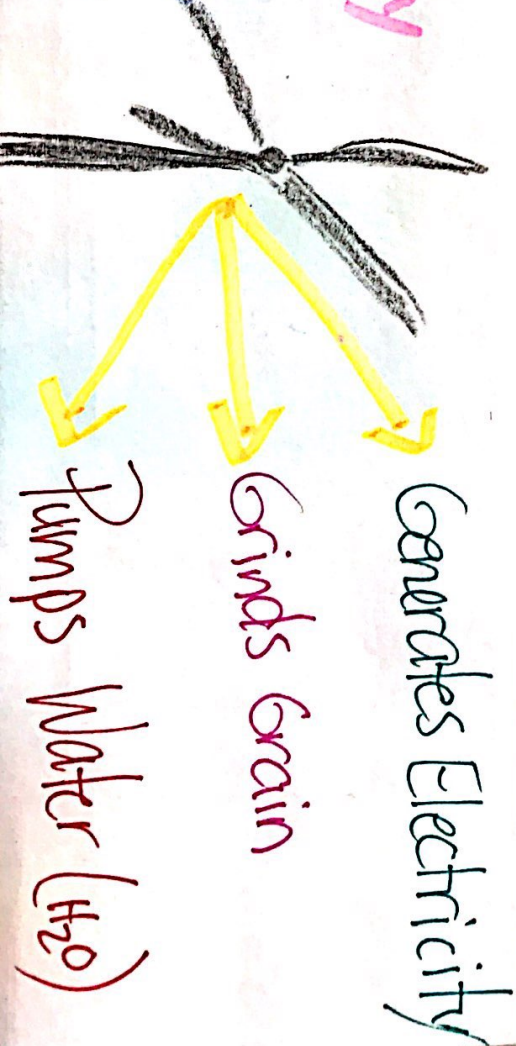
Produces (generates)  
Electrical  
Energy

## Moving Air (Wind) \* A source of Energy

Wind



Turns  
Turbines





# Thermal Energy



Heat



- \* less heat
- \* less evaporation

Cloudless Day

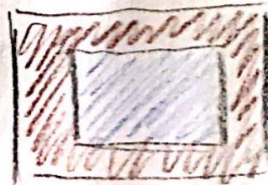
- \* more heat

\* Optimal Day  
(Best)

Cooks Items  
in a  
Solar  
Oven



Laundry  
Dries

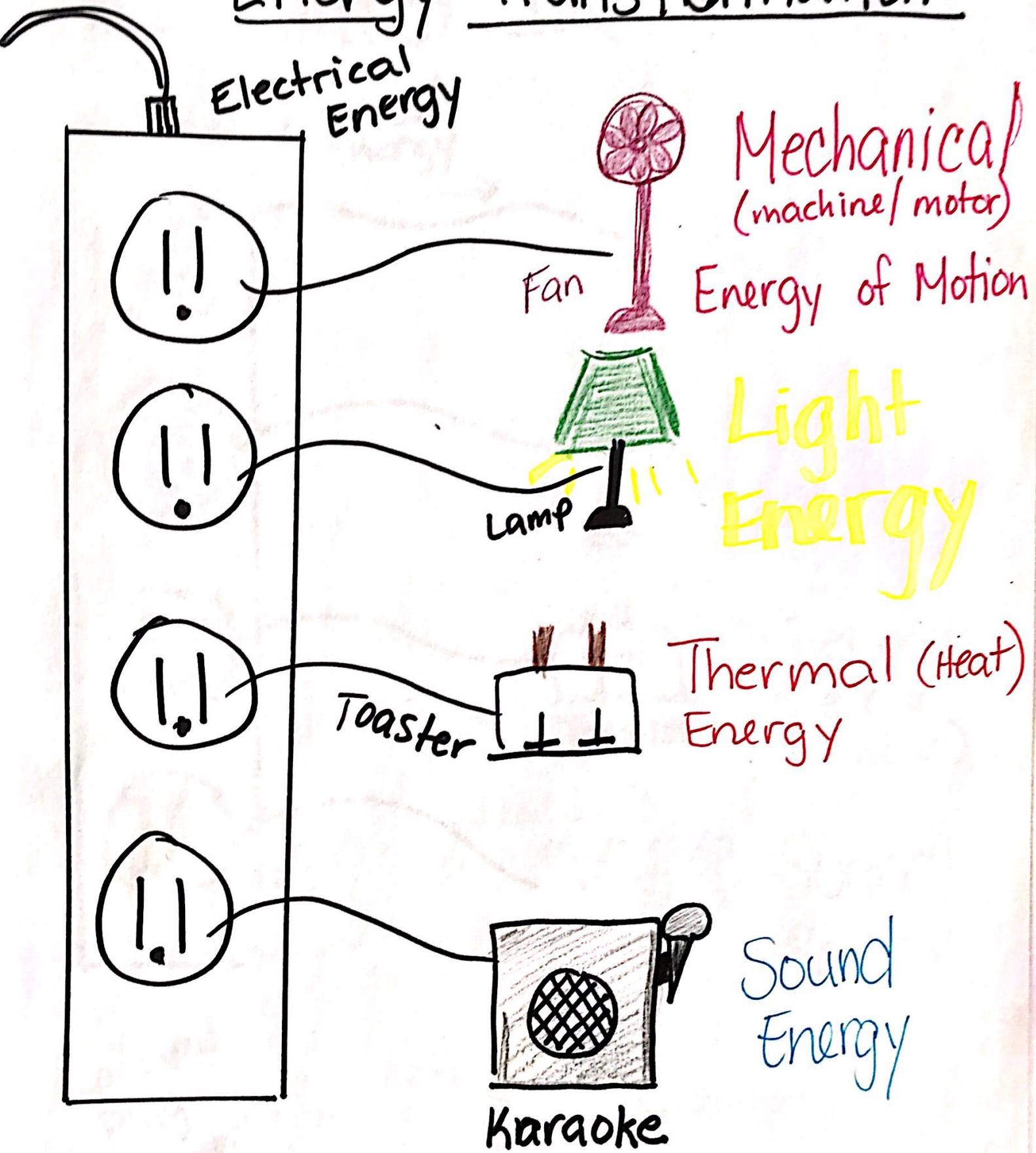


- \* lines the inside -  
Aluminium

To decrease ↓  
Thermal Energy  
\* Cool it down

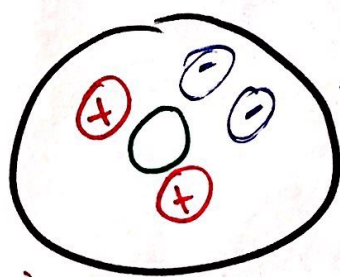
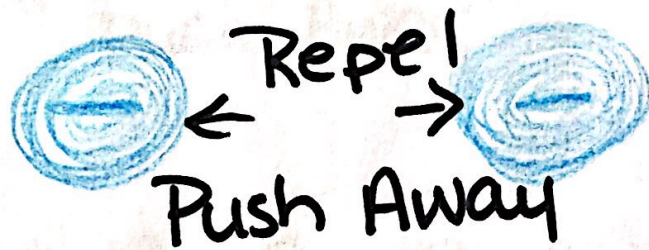
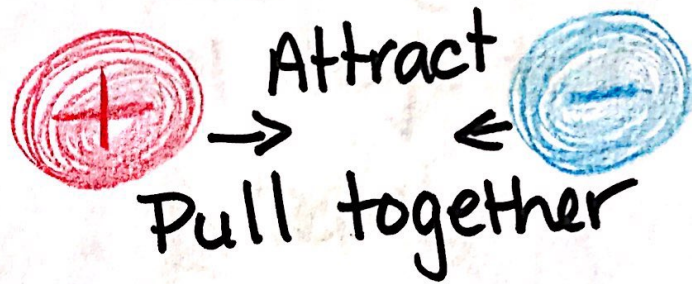
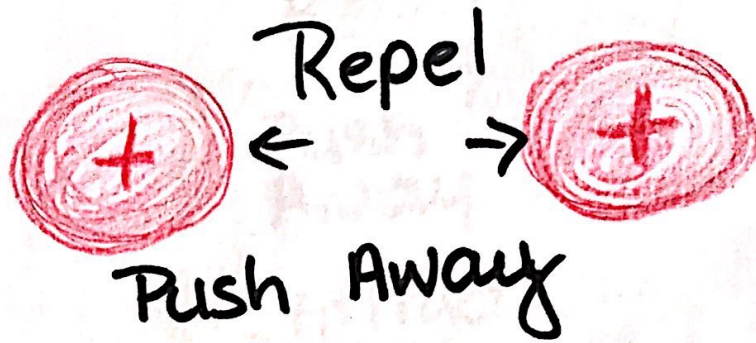


# Energy Transformations

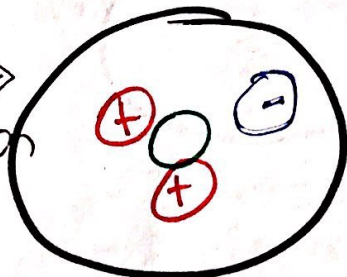




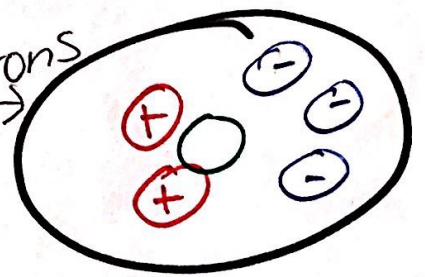
# Electric Charges



Loses  
an  
electron



Gain  
2 electrons

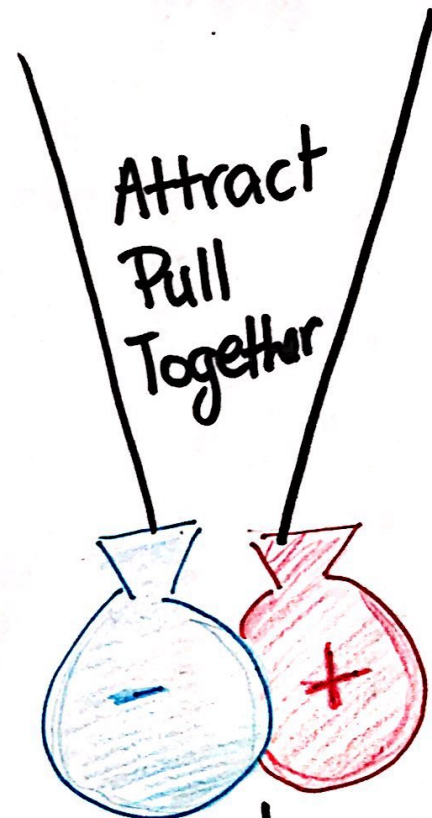
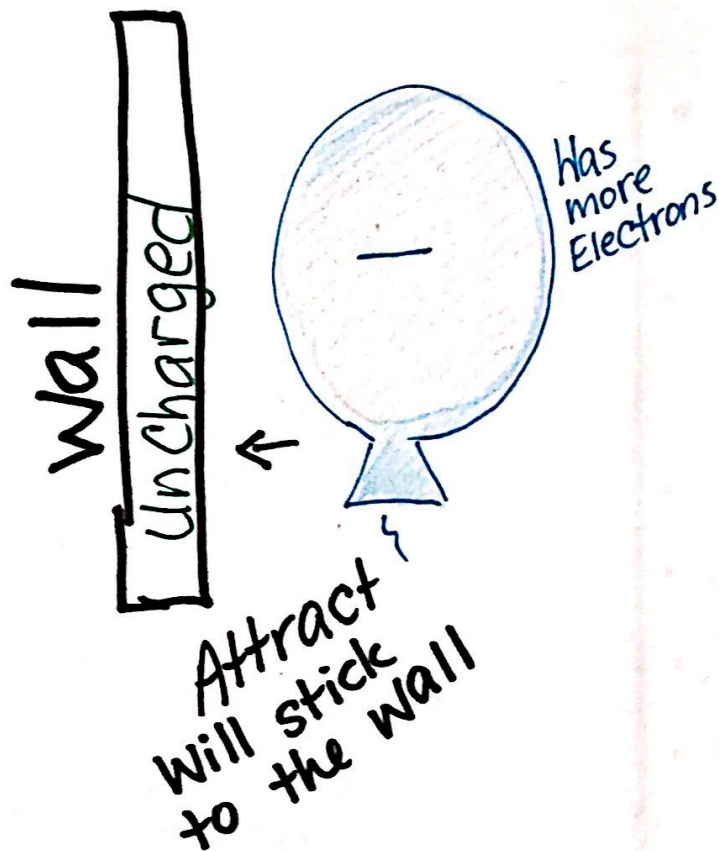


+2 protons  
-2 electrons  
0 neutral  
charge

+2 protons  
-1 electron  
+1 positive  
charge

+2 protons  
-3 electrons  
-1 negative  
charge

# Static Electricity



- They gained opposite charges
- Electrons move from one to another

- Socks rub in dryer
- Electrons move from one to another
- Socks attract & stick together



# "HEAT"

## Conductors

### Good Conductors

- Metal
- Copper
- Silver
- Gold
- Stainless Steel

### \* Aluminium:

- Gets hot in oven
- Radiate heat
- Cools Rapidly

### BAD (Insulators)

- Water
- Plastic (Depends on thickness)
- Rubber
- Cardboard
- Foam
- Glass
- Lead in Pencils
- Wood

# Electrical Conductors

## Conductors

\* A material that allows electric charges to pass (flow) easily

- metals
- Cooper
- gold
- steel
- silver
- Iron
- Water

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Insulator

\* A material that resists (does not allow) the flow of electric charges.

- plastic
- Rubber
- DRY wood
- Air

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_