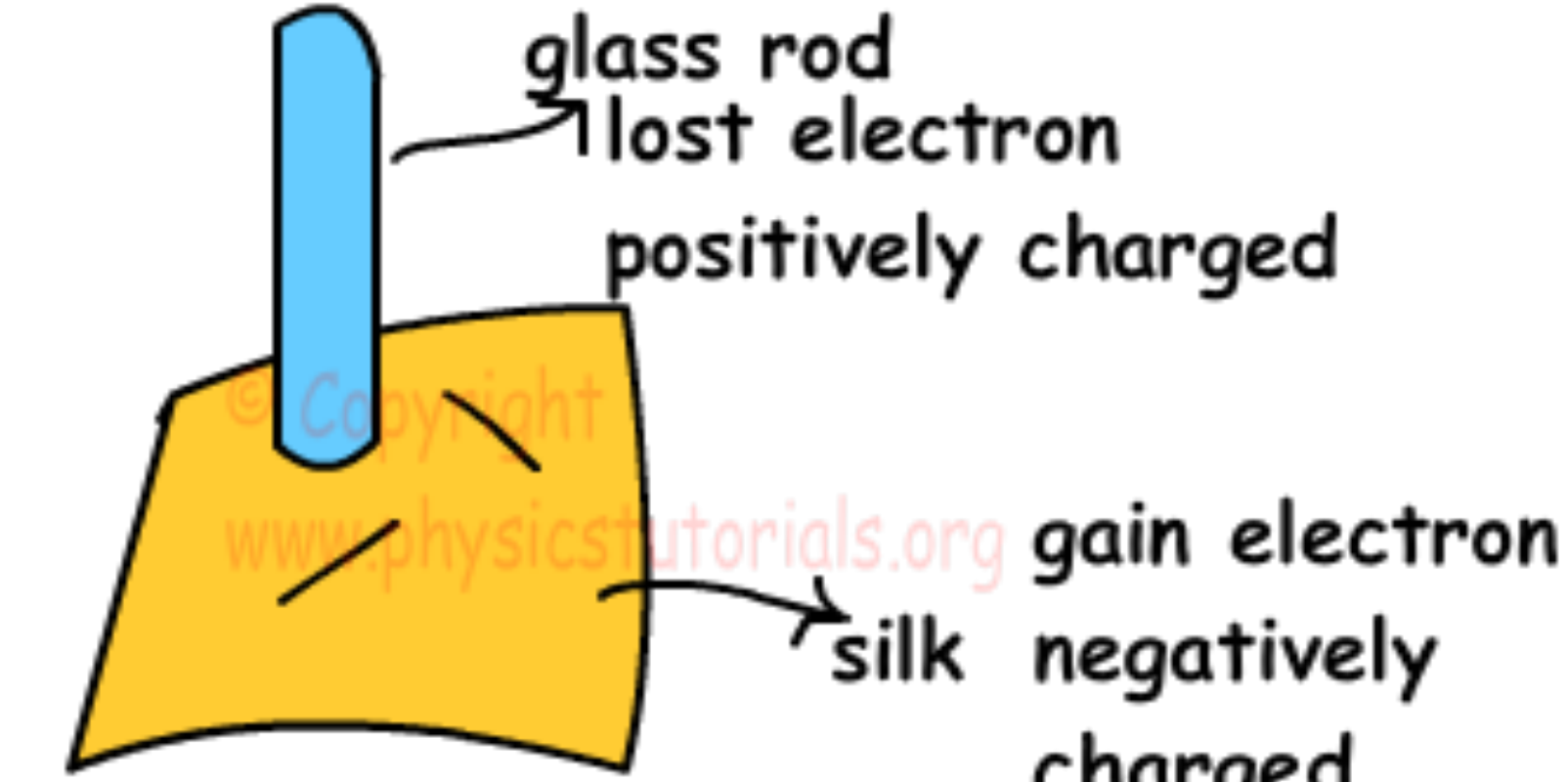
Electricity Visual Vocabulary

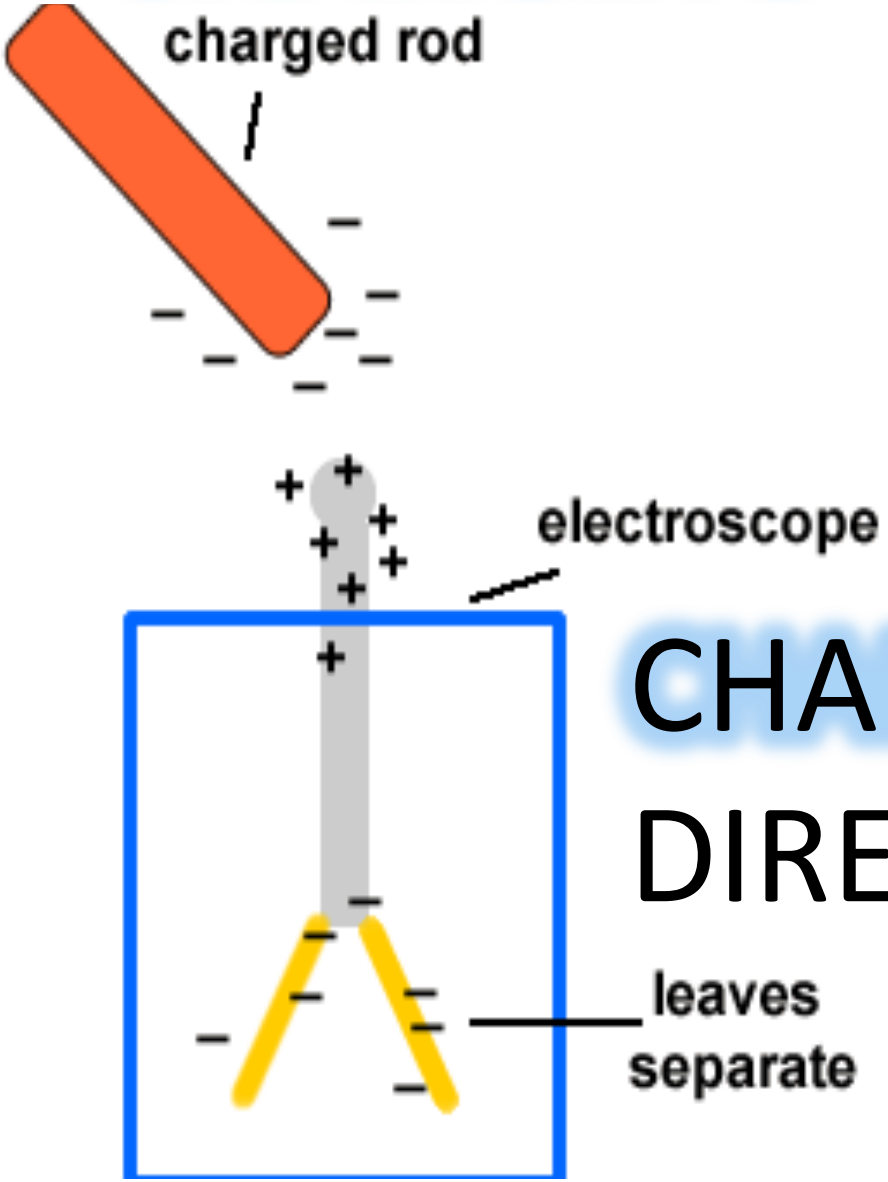
Grade 7

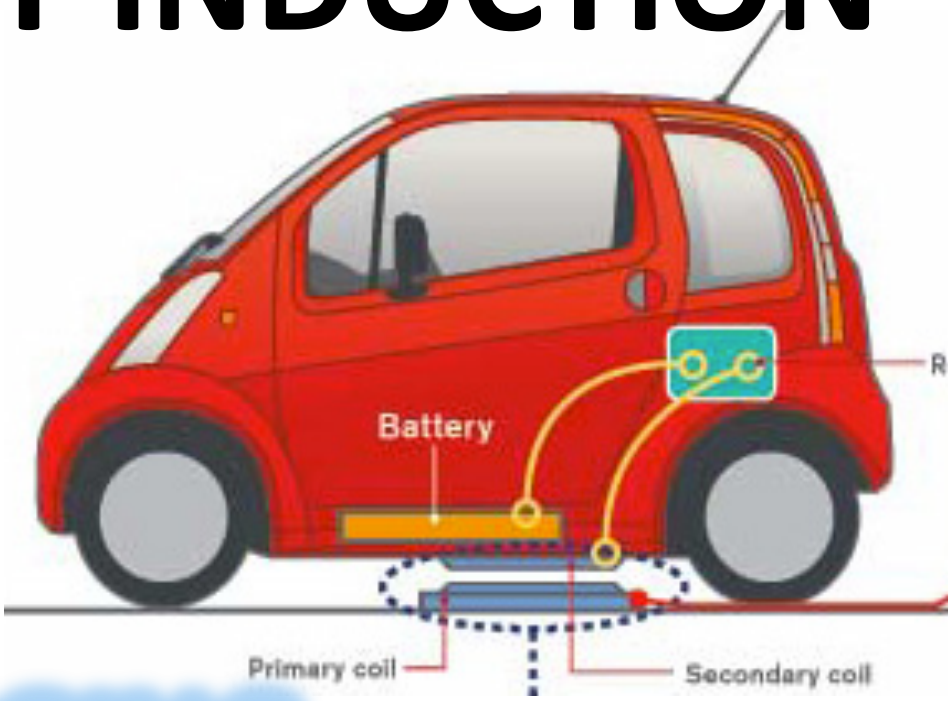
WHEN ELECTRIC CHARGES BUILD UP ON AN OBJECT

CHARGING BY FRICTION



CHARGING BY INDUCTION



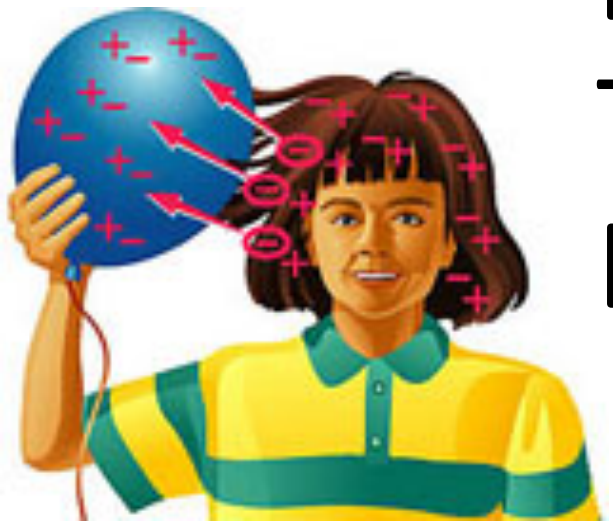


CHARGING WITHOUT DIRECT CONTACT

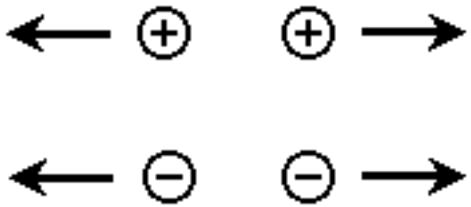
CHARGING BY CONDUCTION

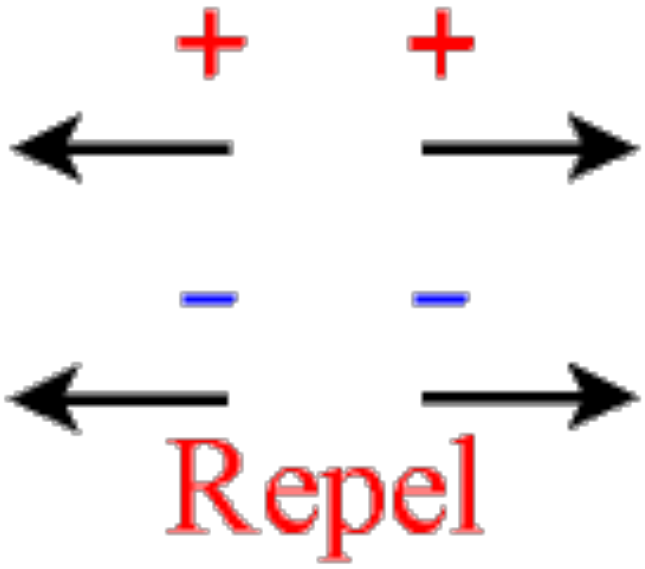
CHARGING BY DIRECT CONTACT

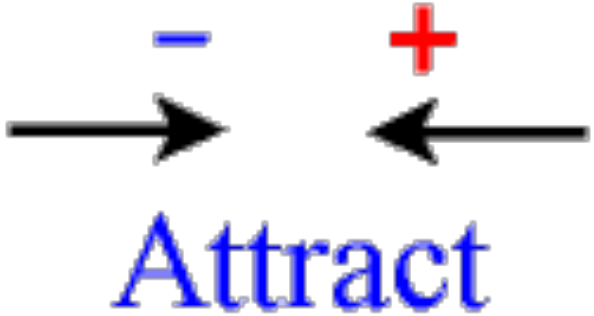
LAW OF CONSERVATION OF CHARGE



CHARGE CAN NOT BE CREATED OR DESTROYED; ONLY TRANSFERRED BETWEEN OBJECTS







OPPOSITE CHARGES ATTRACT

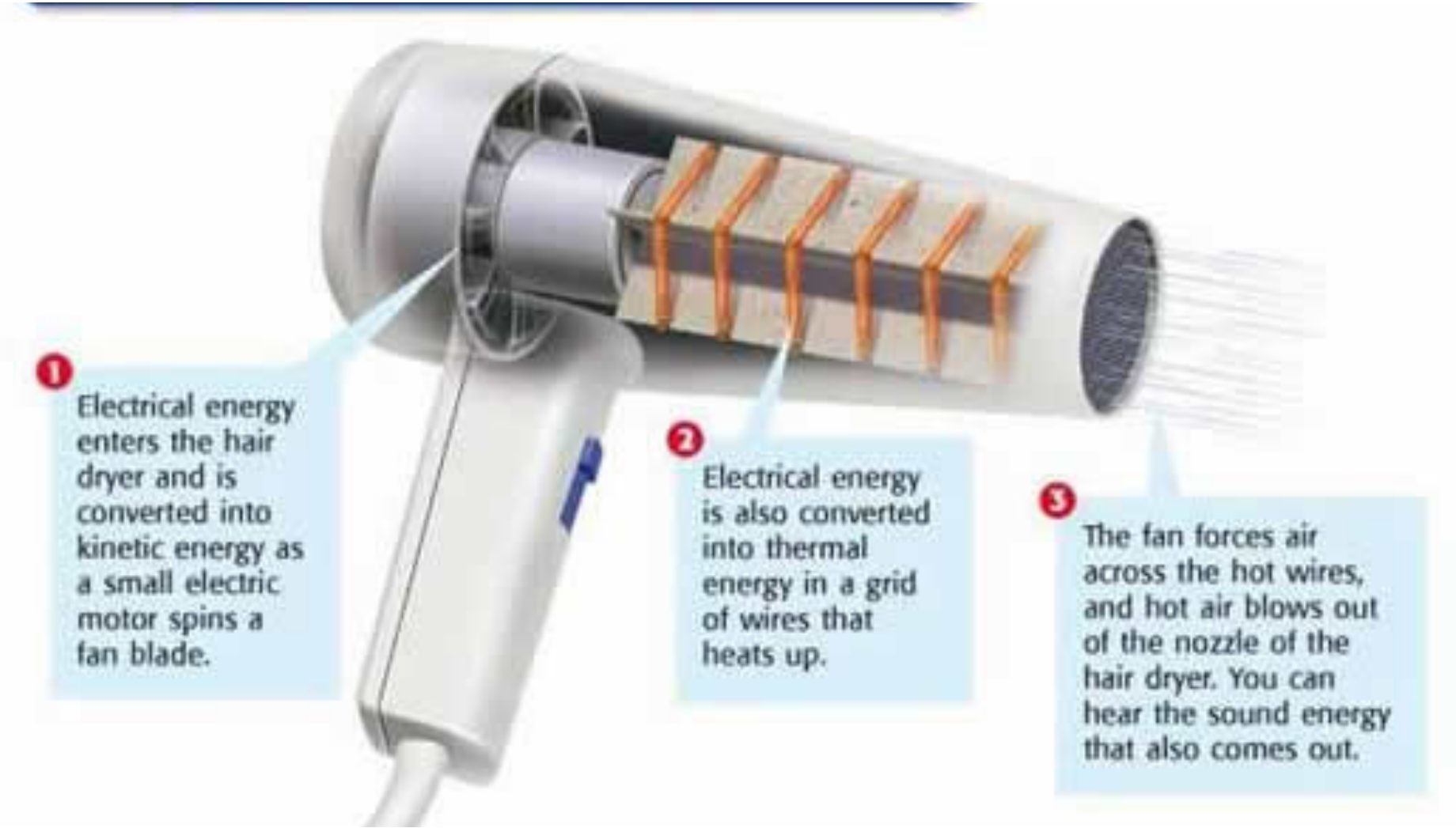
LIKE CHARGES REPEL

DISCHARGE

*STATIC CHARGE BUILDS UP IN OBJECTS, BUT IT CAN'T STAY THERE FOREVER

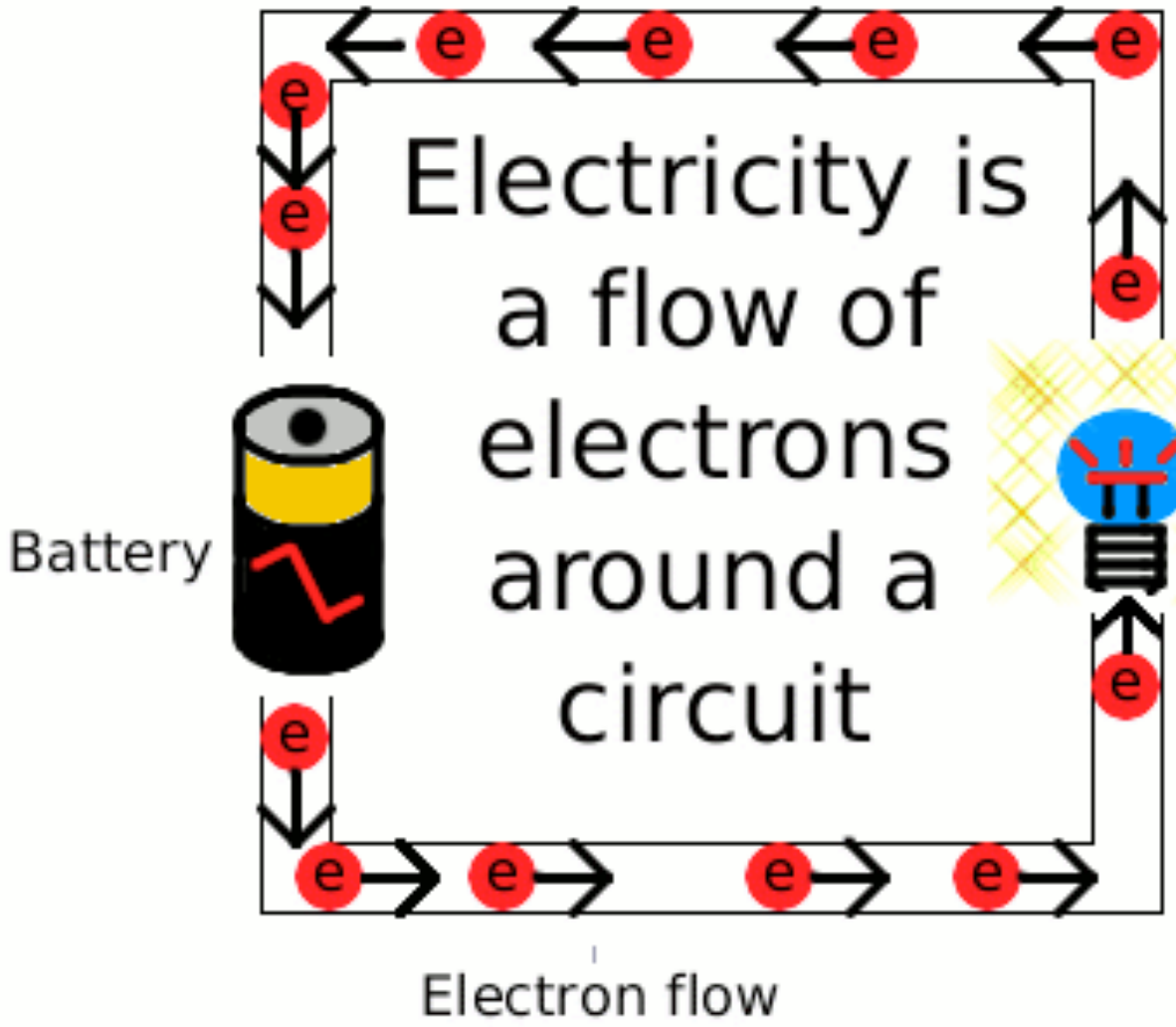
*DISCHARGE IS WHEN THE BUILT UP CHARGE ESCAPES FROM AN OBJECT

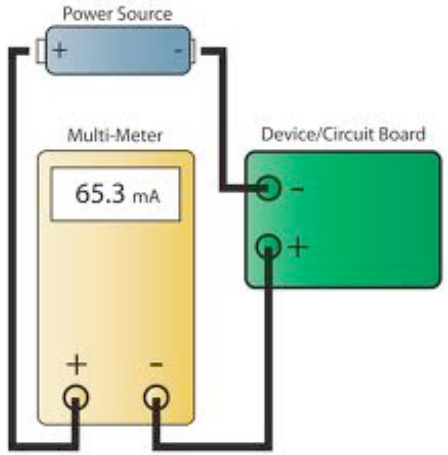
ENERGY TRANSFORMATION



CURRENT

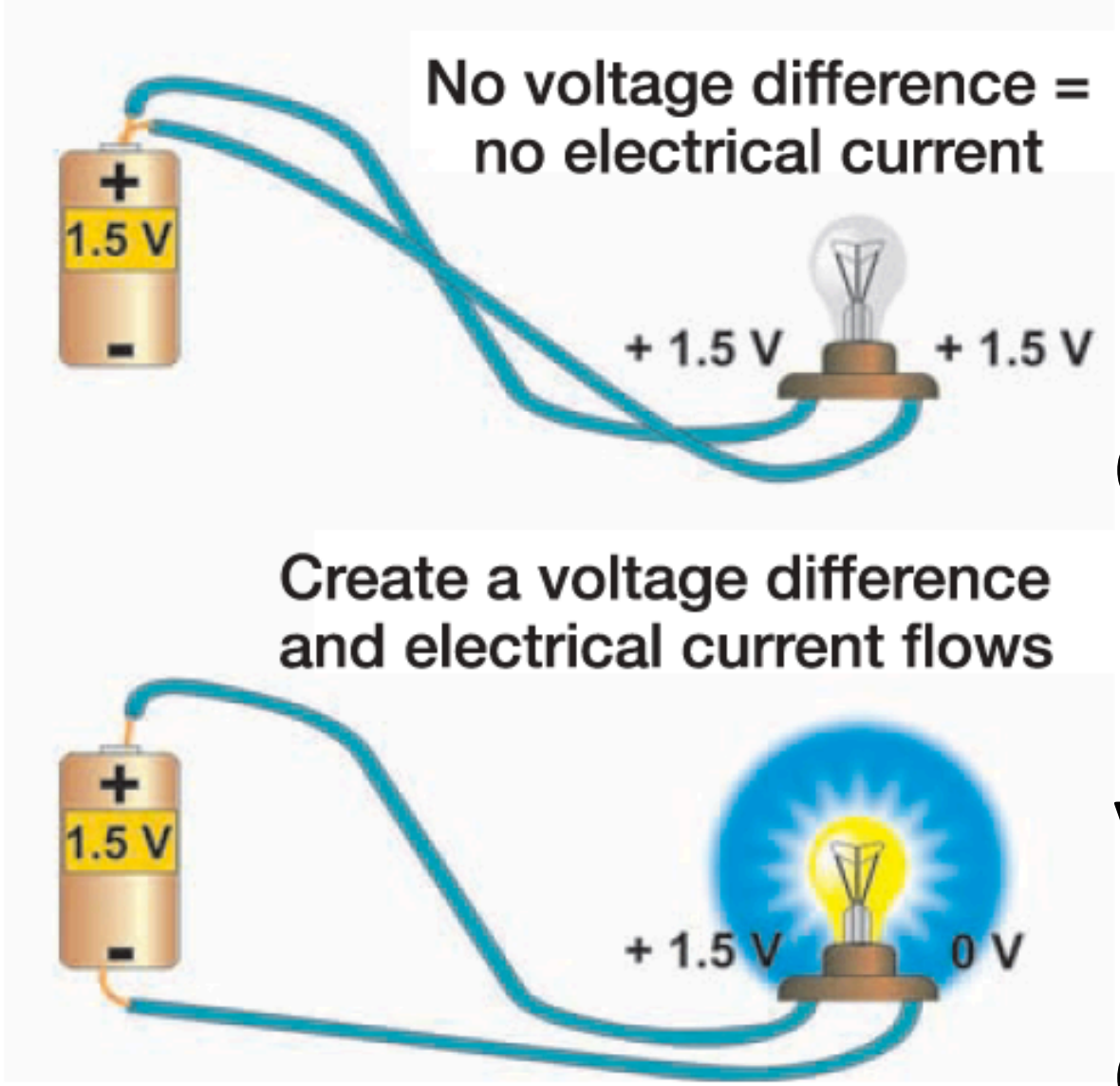
FLOW OF ELECTRONS





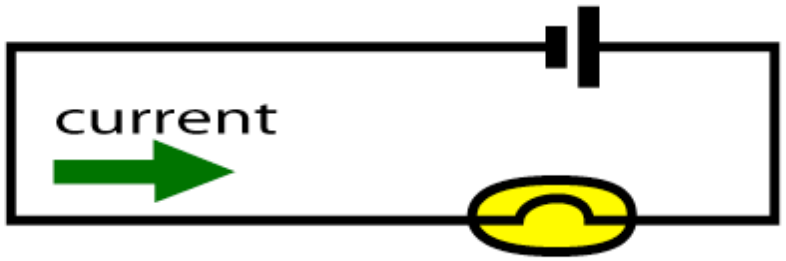
NEEDS VOLTAGE TO FLOW

VOLTAGE

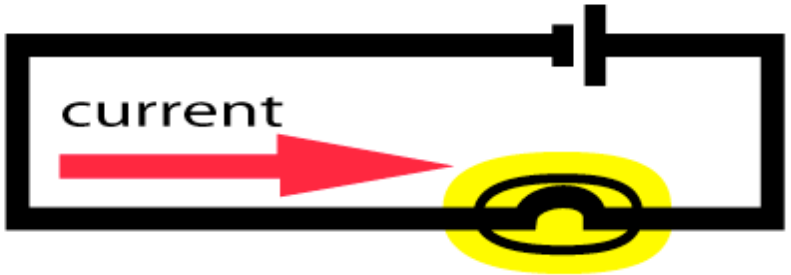


* DIFFERENCE IN ELECTRICAL POTENTIAL ENERGY;
* MAKES CURRENT MOVE;
* MORE VOLTAGE = MORE CURRENT

high resistance
limits current



low resistance
allows high current

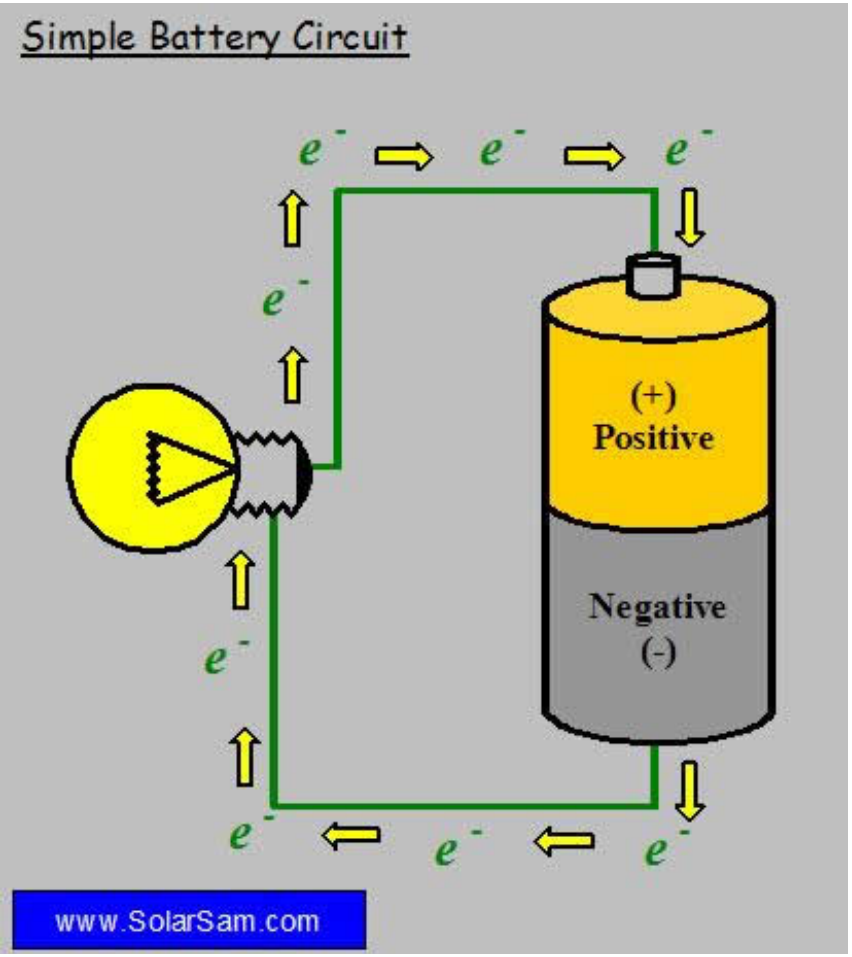


RESISTANCE

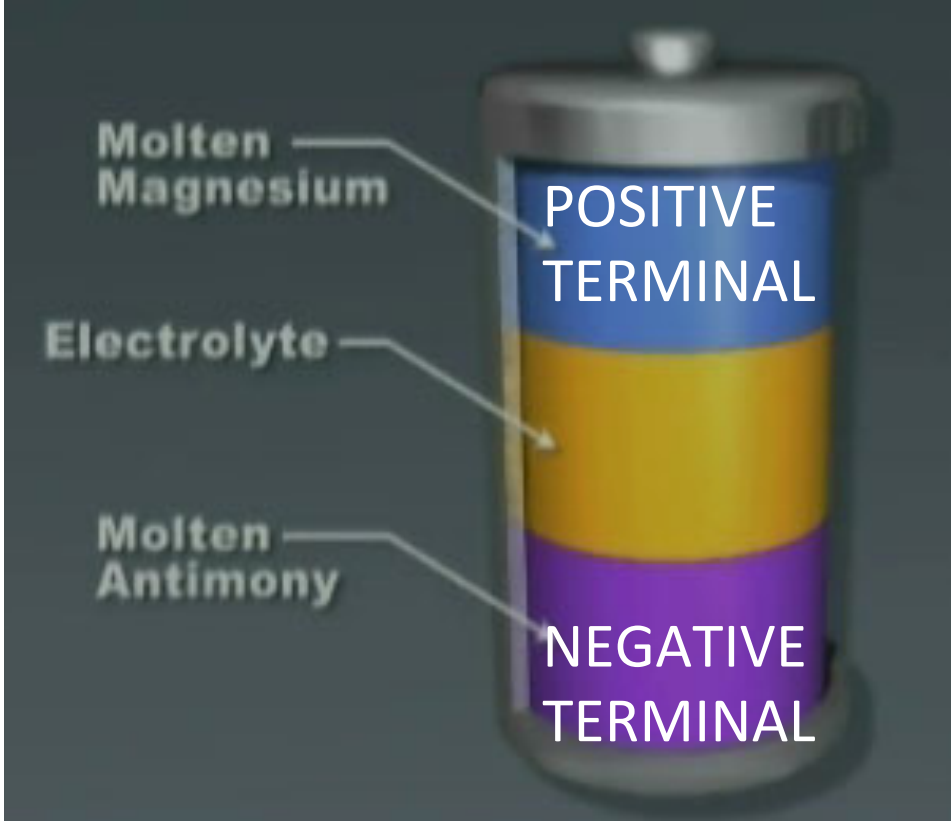
MEASURES HOW HARD IT IS FOR CURRENT TO FLOW

CAUSED BY:
*LONGER WIRE
*THINNER WIRE
*MORE STUFF IN THE CIRCUIT

BATTERY



ELECTROCHEMICAL CELL

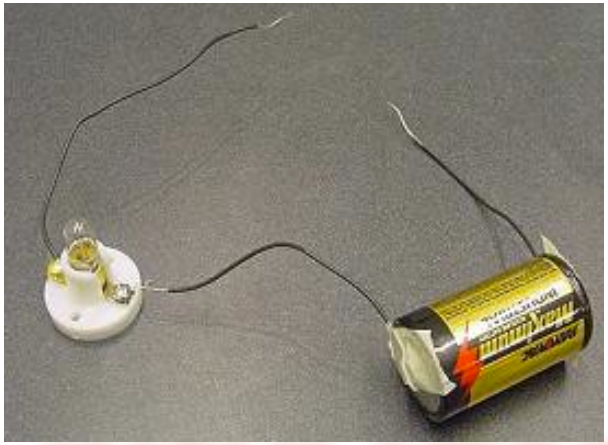


TRANSFORMS CHEMICAL ENERGY INTO ELECTRICAL ENERGY

CONDUCTORS

CONDUCT

ELECTRICITY

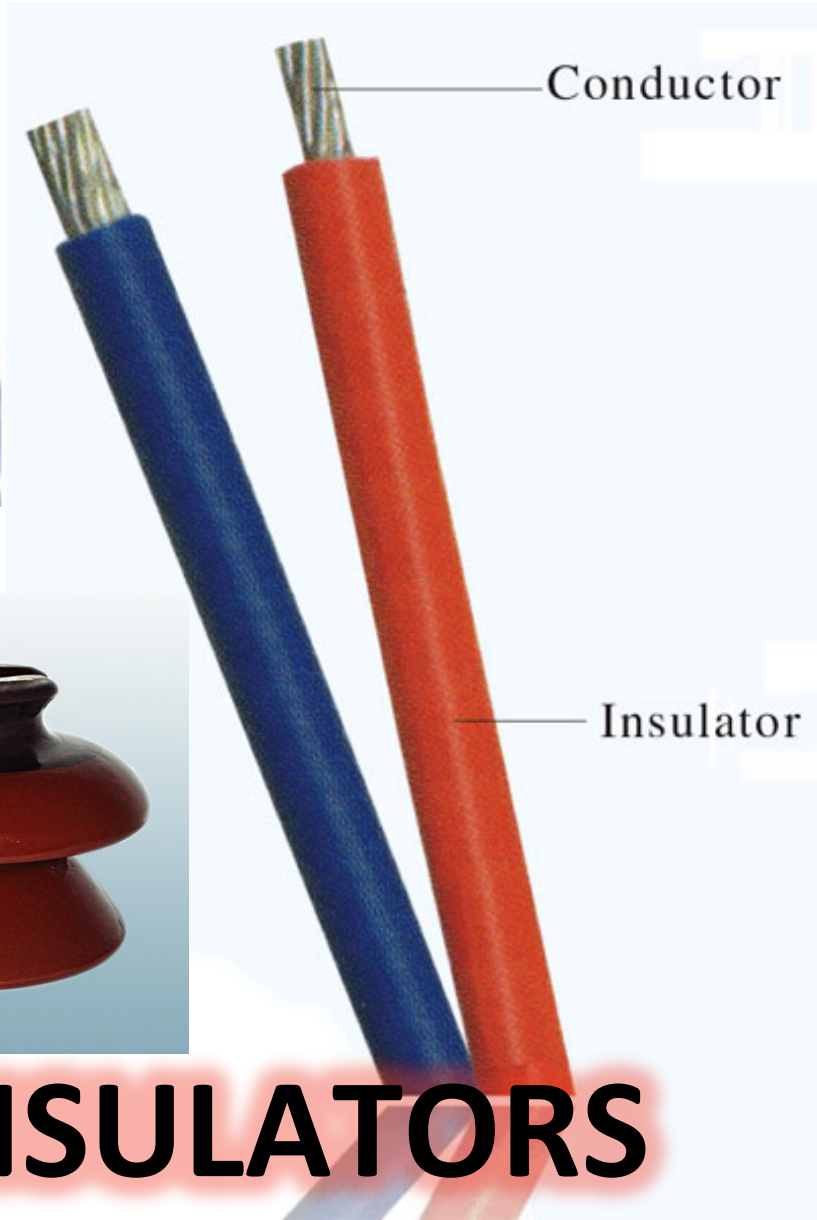


INSULATORS DO

NOT CONDUCT

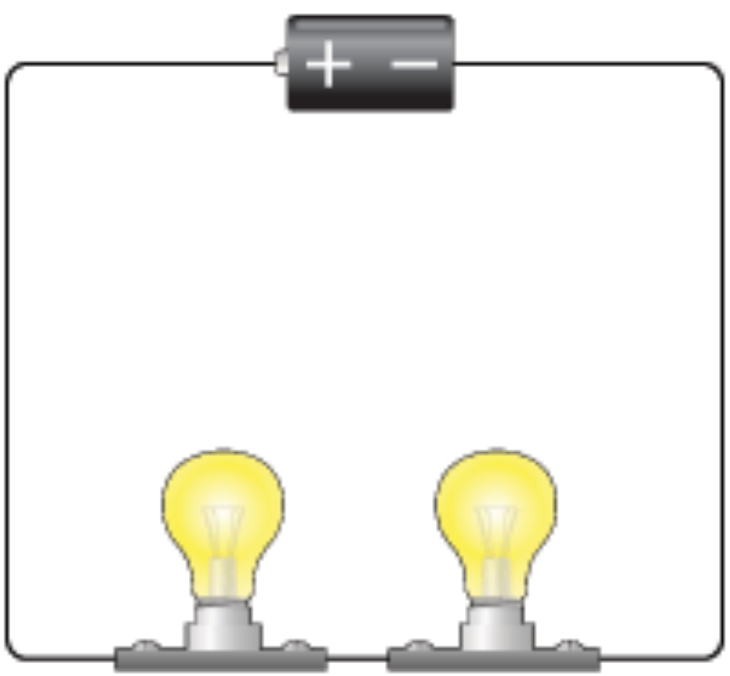
ELECTRICITY

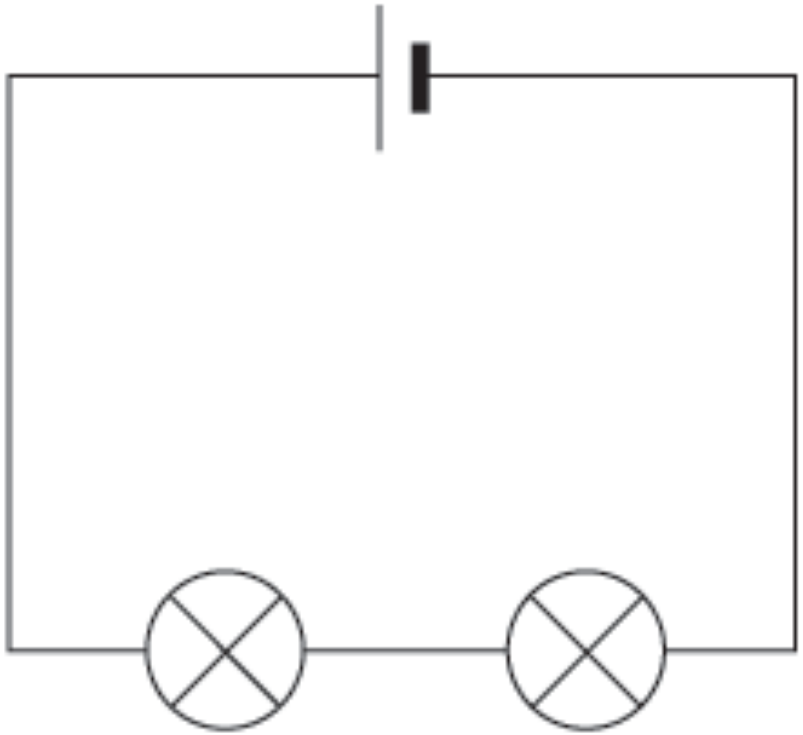
CONDUCTORS



INSULATORS

SERIES CIRCUIT

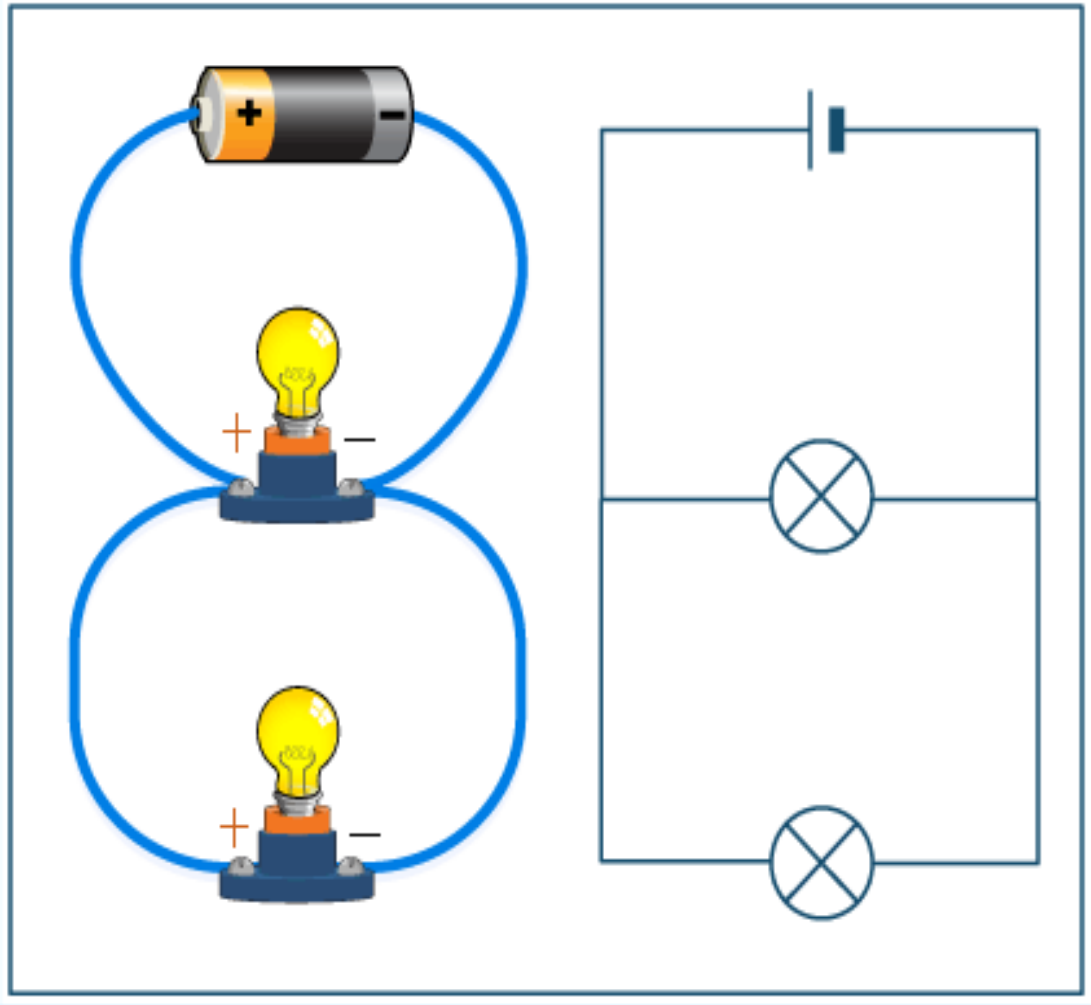




A CIRCUIT WHERE ELECTRONS ONLY HAVE ONE PATH TO FLOW

PARALLEL CIRCUIT

A CIRCUIT WHERE THE ELECTRIC CURRENT HAS MORE THAN ONE PATH TO TAKE



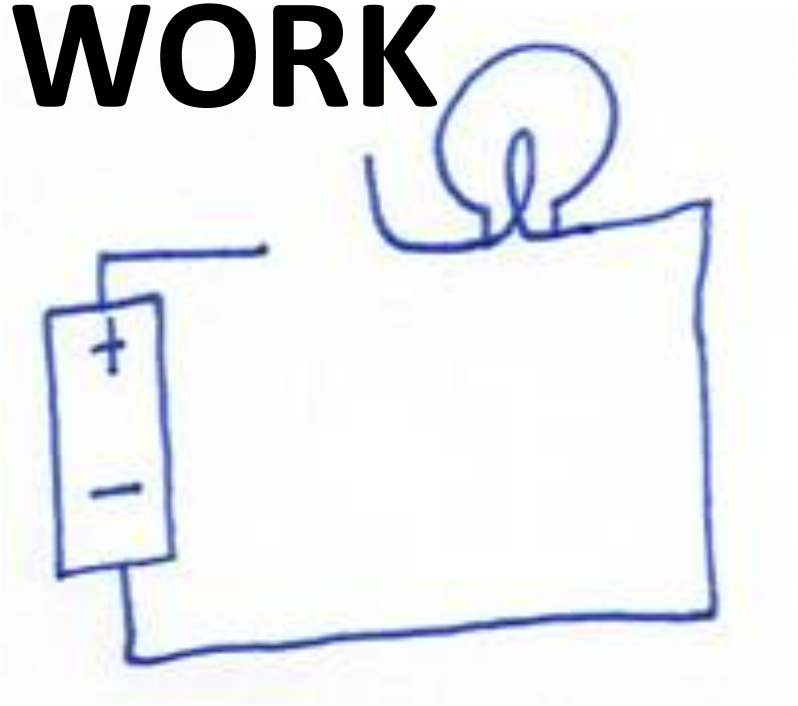
***USED IN HOMES

***CAN CONTROL PARTS SEPARATELY

***STAYS BRIGHT EVEN WHEN YOU TURN ON ANOTHER PART

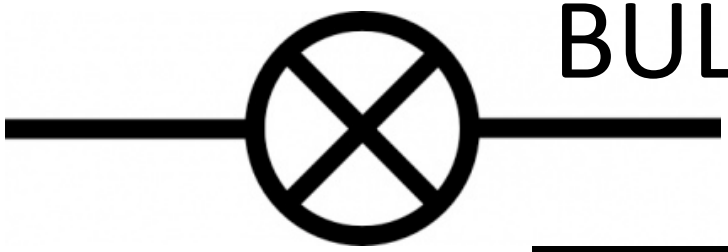
CLOSED CIRCUIT: WORKS

OPEN CIRCUIT: DOESN'T WORK

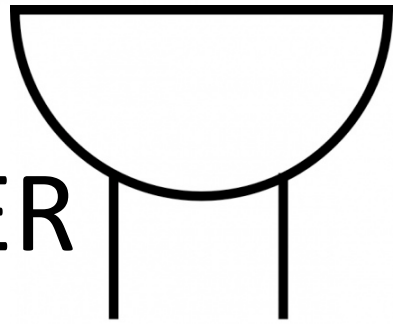


CIRCUIT SYMBOLS

BATTERY/CELL



BULB



BUZZER

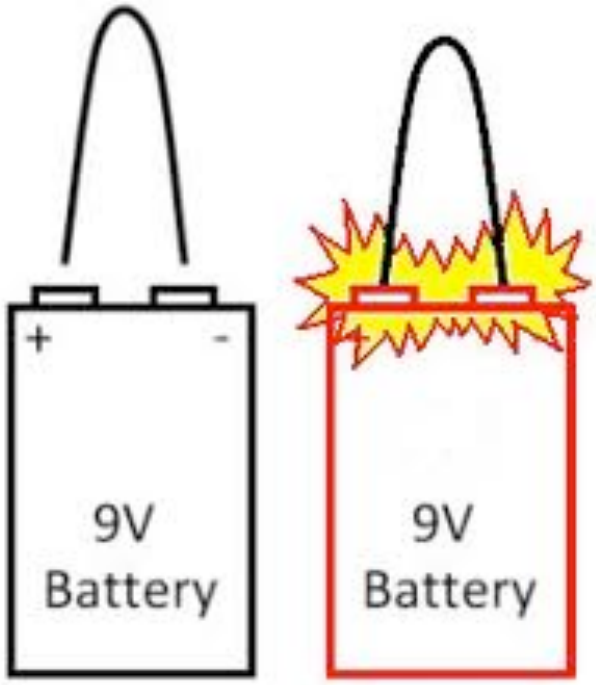
MOTOR

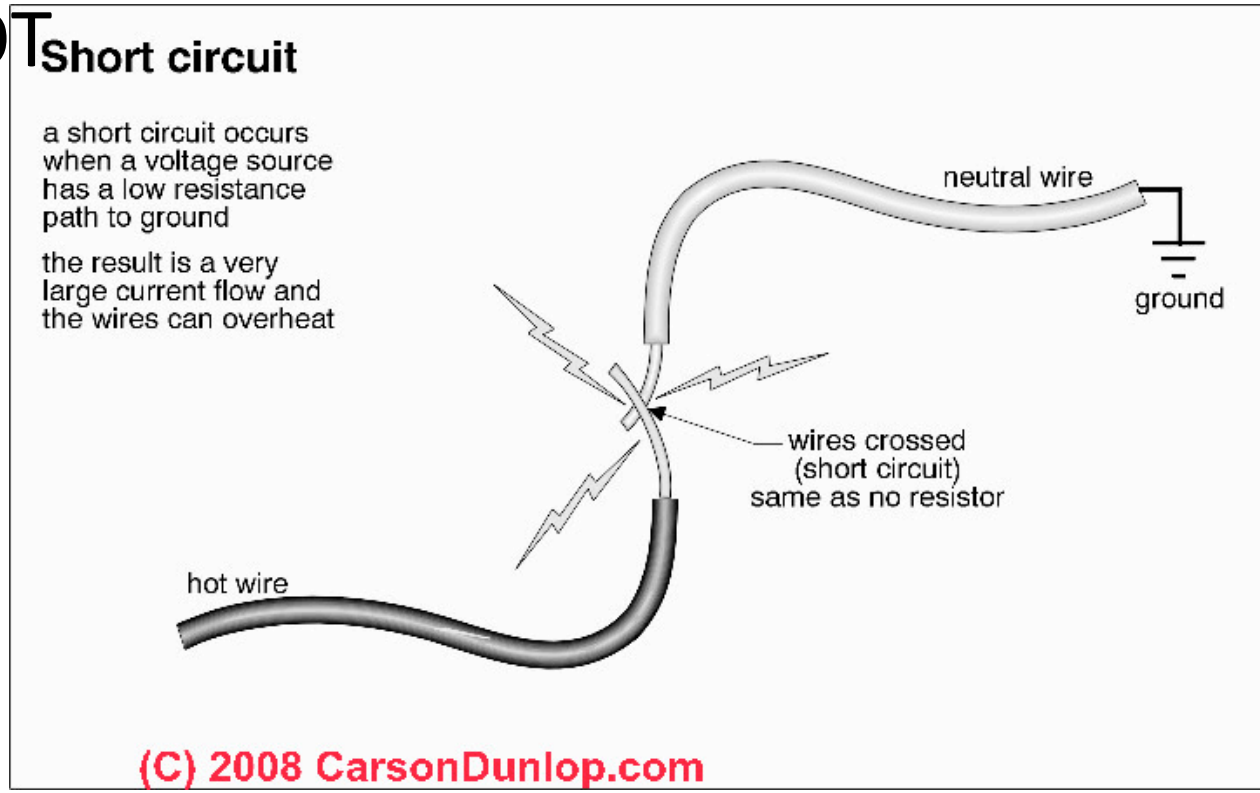
CLOSED SWITCH (ON)

OPEN SWITCH (OFF)

SHORT CIRCUIT

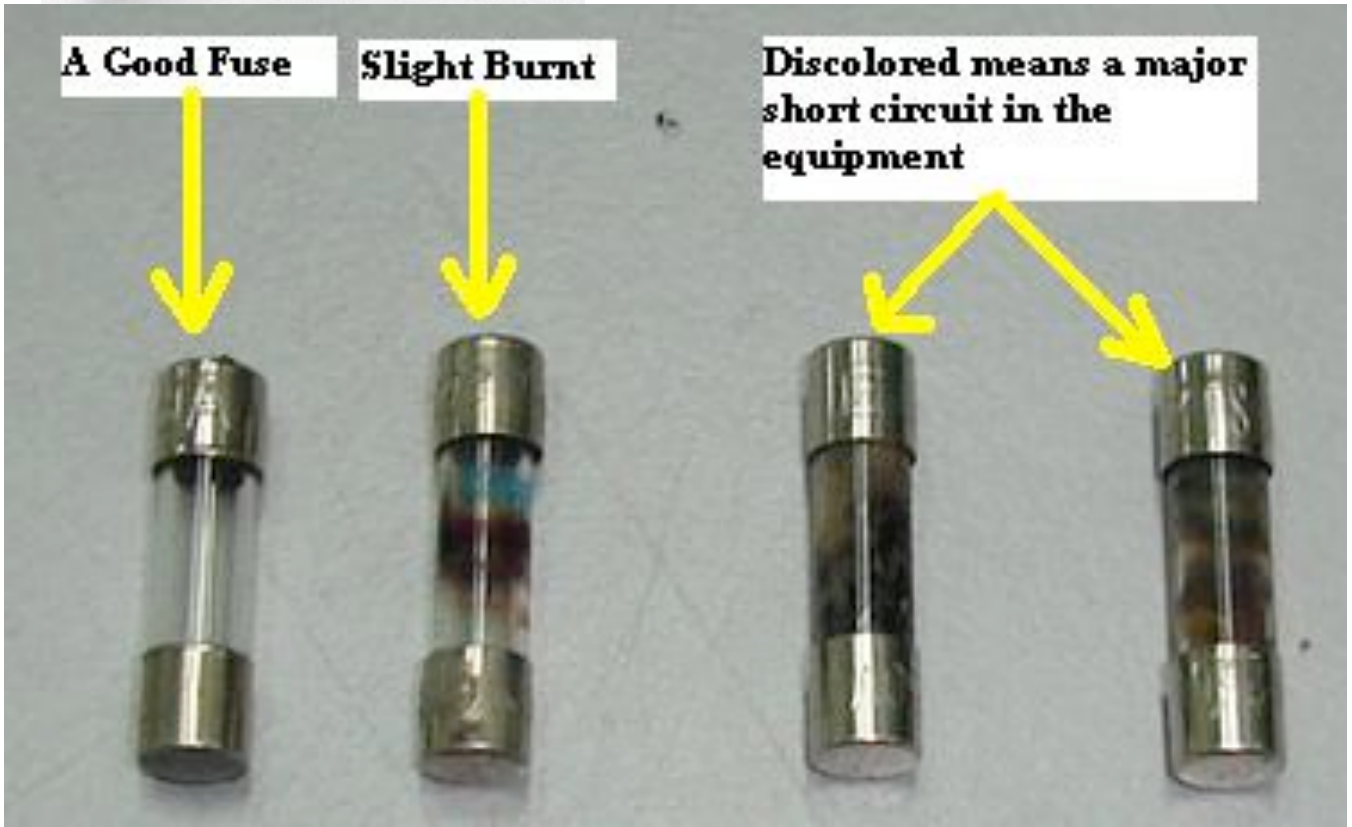
- WHEN ELECTRICITY TRAVELS A PATH IT IS NOT SUPPOSED TO TAKE
- DANGEROUS: CURRENT GETS TOO HIGH AND CIRCUIT TOO HOT





FUSE

- SACRIFICIAL SAFETY DEVICE IN A CIRCUIT THAT MELTS IF TOO MUCH CURRENT FLOWS



CIRCUIT BREAKER

SAFETY DEVICE WHICH AUTOMATICALLY TURNS OFF A CIRCUIT IF THERE IS TOO MUCH CURRENT FLOWING