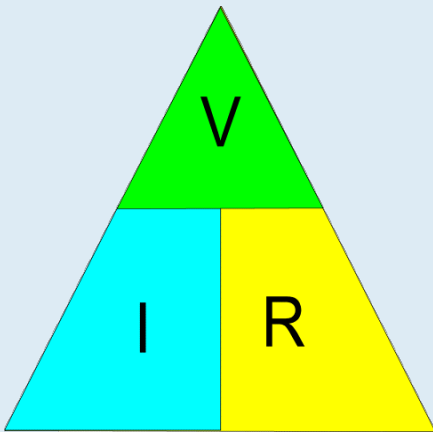## Current

Current is the amount of net charge passing through a surface per a second.

### I = q/t

I = Current (Amperes)
q = Charge (Coulombs)
t = Time (seconds)

## Ohm's Law



## Resistivity

Resistivity is a material property that quantifies how much the material restricts the flow of current.
Ohm- meter

### R = p (l/a)

R = resistivity
p = conductiity (ohms/m)
l = length
a = area of crossection (m^2)

Replay

### R = p (l/a)

What happens if the area is larger?

> the smaller the resistence

What happens if you increase the length?

> the larger the resistence

## Power

Work per unit time.

### P = IV = I2R = (v)2/R

Original formula is P = IV. With this formula, apply Ohm's law and the rest will follow.

### Power = energy * time

Power (Watts)
Energy (kWhr,
Time (seconds)

### energy = (power) (time)

Energy (kWhr, Joules)
Power (Watts)
Time (seconds)