Cheatography

Electric Circuits Cheat Sheet

by Coalmine via cheatography.com/132963/cs/26999/

Symbols To Know

Switch	Thermistor
Fuse	Light Dependent Resistor (LDR)
Lamp	Variable Resistor/Reostat
Light Emitting Diode (LED)	Diode
Resistor	Voltmeter
Battery	Ammeter
A.C Power Supply	D.C Power supply
Battery Pack	Speaker

Series and Parallel Circuits

Series	Parallel
Current flowing in each component is the same	Current is shared at each junction
Useful when you need a warning when something breaks	Useful when you want other components to work when another is broken.
	All components receive the same voltage

I-V Graphs

Current And Voltage

Voltage	Current
PUSH behind current	Rate of flow of electrons
Measured in Volts (V)	Measured in Amps (A)
Measured by voltmeter, which is placed in parallel to circuit	Measured by ammeter, which is placed in series to circuit
The more batteries, the more voltage	The more resistance, the less current

NOTE: Only ENERGY is used up

Resistor

Resistors are the opposition to flow of current.

Resistors continued

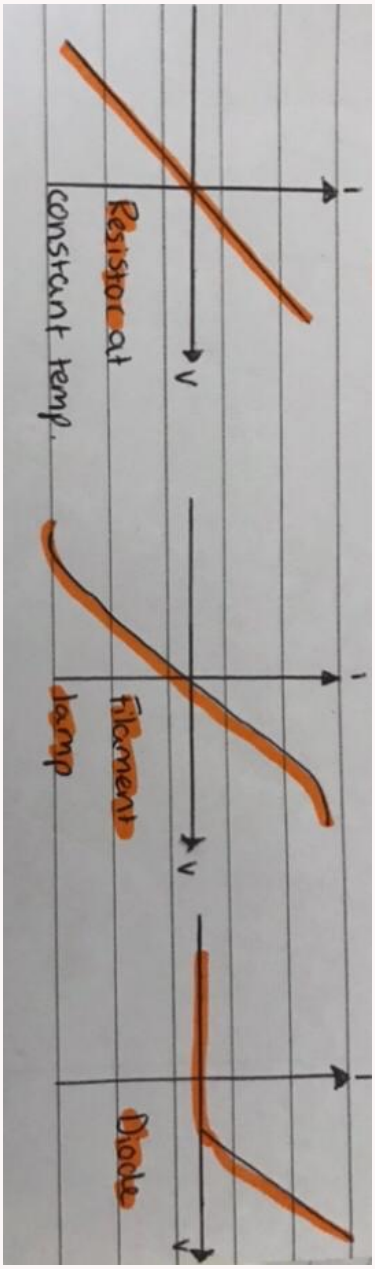
It is measured in Ohms' and is calculated by Ohm's Law

NOTE: A filament lamp is also a resistor

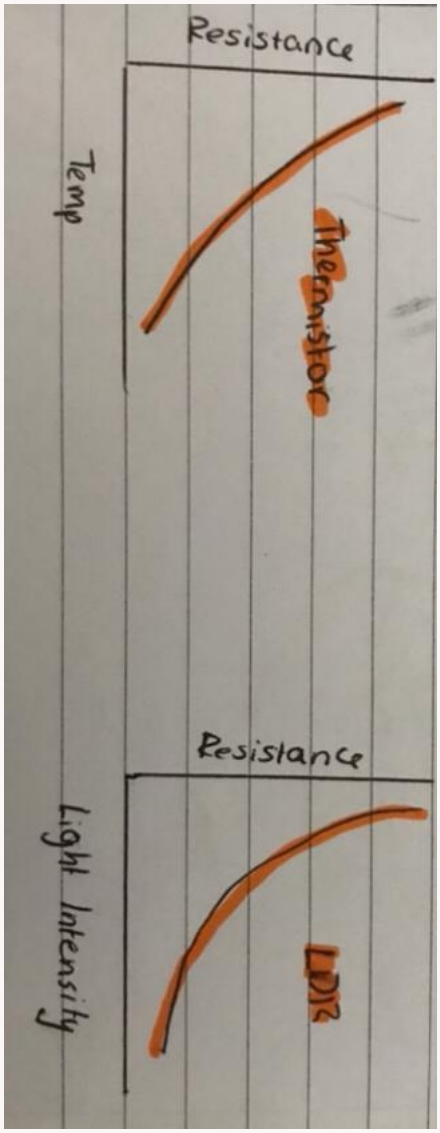
Equations

Voltage = Current x Resistance	$V=IR$
Power = Current x Voltage	$P=IV$
Power = Current^2 x Resistance	$P=I^2R$
Total Resistance in Series	$R^1 + R^2 + R^3 ...$
Total Resistance in Parallel	$1/R^1 + 1/R^2 + 1/R^3 ...$

Thermistors and LDR Graph



The graphs can also be reversed (V-I Graphs)



By **Coalmine**
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Other things

Thin wire - Less current

Thick wire - More current

Long Wire - Less current

Short Wore - More current

Mains voltage is usually 230V

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