Quizlet

Circuit Lab Science Olympiad

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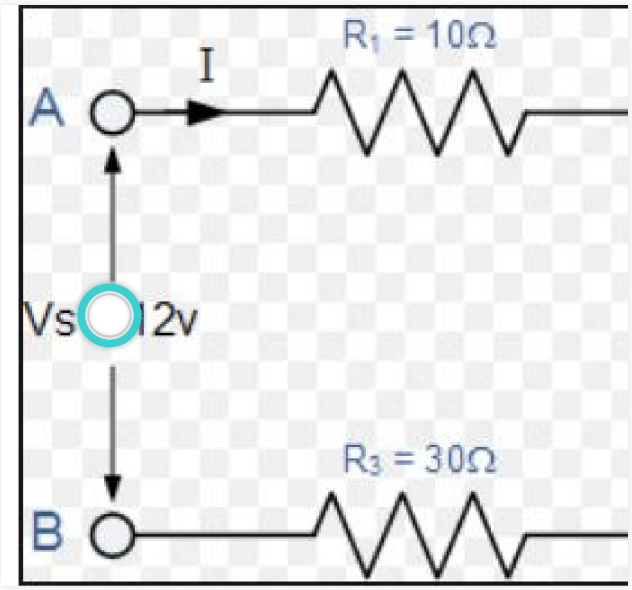
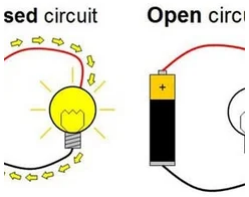
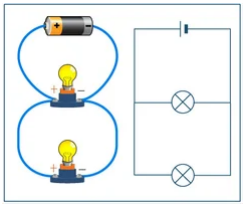
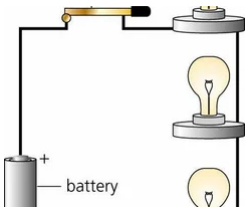


Terms in this set (44)

conductors	materials that allow electric charges to flow through them easily: metals, glass, water, and humans	★

insulators	Do not allow electricity to flow through them easily: plastic, rubber, wool, etc... 	★
open circuit	A circuit that does not have a complete connection between the two sides of the power source. As a result, current does not flow.	★
closed circuit	a complete circuit through which electricity flows 	★
parallel circuit	A circuit that contains more than one path for current flow. 	★
series circuit	A circuit that contains only one path for current flow.	★



TERM

resistor

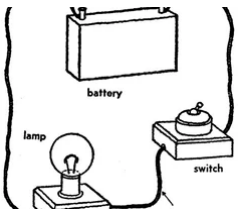
DEFINITION

a device used to control current in an electric circuit by providing resistance; A special component made for the purpose of creating a precise quantity of resistance

+ 1 more side

circuits

A closed path through which electrons (a current) can flow; electrons will continue to flow unless the circuit is broken



TERM

power source

DEFINITION

a device that provides power to electric machines; battery, generator

+ 1 more side

electricity	a valuable new form of energy that could be converted into heat, light, motion and moved in rough wires 	★
Voltmeter	to measure voltage/potential difference	★
Ammeter	to measure electric current	★
Ohmmeter	to measure resistance	★
Ohm's Law	Voltage = Electric Current x Resistance 	★

Measuring Resistance	$\cdot + \frac{1}{R_2} +$	★
In series circuit, _____ will be the same and ____ will be different	Electric Current the same, Voltage different	★
In parallel circuit, _____ will be the same and ____ will be different	Voltage the same, Electric Current different	★
Multimeter	1 tool that can measure voltage, current, and resistance	★
Schematic	diagram that uses various symbols to represent a simplified circuit	★
Electrical Circuit	a circuit that has a path for electrons to follow for infinuim	★
Circuit Break	A block or gap in a circuit that prevents the flow of electricity	★
Equation for voltage	I(R)=V	★
Equation for current	I=V/R	★

Equation for Resistance	R=V/I	★
Fire and electricity	_____ both produce heat upon contact with living tissue	★
Total Resistance	the sum of all individual resistances within the circuit	★
Kirchhoff's Voltage Law	The algebraic sums of all voltages in a loop must equal zero	★
Kirchhoff's Current Law	The sum of all currents entering a node is equal to the sum of all currents leaving the node.	★
Norton's Theorem	Any network of voltage or current sources and resistors is electrically equivalent to an ideal current source in parallel with a single resistor.	★
Thevenin's Theorem	Any network of voltage or current sources and resistors is electrically equivalent to a single voltage source in series with a single resistor.	★
superposition theorem	In a linear network with several independent sources, the response in a particular branch when all the	★

	sources are acting simultaneously is equal to the linear sum of individual responses calculated by talking one independent source at a time.	
Resistance	The force against the flow of the electrons.	★
capacitor	a device used to store charge in a circuit	★
Inductor	a device for storing energy in the form of a magnetic field	★
Volt (V)	Unit of electric potential or how much the charge is "pushed"	★
Ampere (Amp)	Unit of electric current or how many electrons go past a given point in a second	★
Impedance Matching	a technique used to match a load resistance to a source resistance in order to achieve maximum transfer of power	★
Load	An element connected across the output terminals of a circuit that draws current from the circuit.	★

power	The rate of energy usage; P=I(V)	★
Maximum Power Transfer	A transfer of maximum power from a source to a load when the load resistance equals the internal source resistance.	★
Compass	A navigational instrument that measures directions using a free floating magnetic and the Earth's magnetic field to point towards the Magnetic North Pole	★
Watts	The SI unit of power, equivalent to one joule per second, corresponding to the power in an electric circuit in which the potential difference is one volt and the current one ampere.	★
Nikola Tesla	Invented the Alternating Current (AC current) for electricity.	★
Thomas Edison	American inventor best known for inventing the electric light bulb, also created Direct Current (DC).	★

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Circuit Lab - Combined

89 Terms

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Science Lab: Electricity

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APYS Unit 10 Electric Circuits

22 Terms

mmknopp16

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