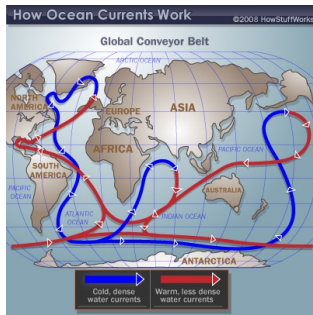


Chapter 34 Current

Current = flow



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Chapter 34 Electrical Current

flow of electrical charge

Symbol = I

I = charge moved/time

Coulombs/second

1 Coulomb/sec = 1 Ampere = 1 Amp = 1A

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Fuses limit the current in a circuit.

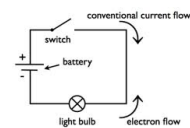
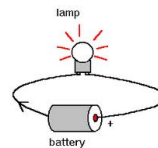
Too much current can cause a fire or an explosion.



Fuses are safety devices.

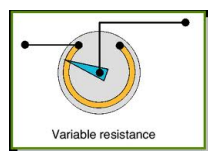
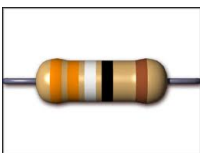
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Voltage (pressure) in a circuit causes current (flow of charge)



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Resistance = opposition to current flow



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Ohm's Law

$$V = I R$$

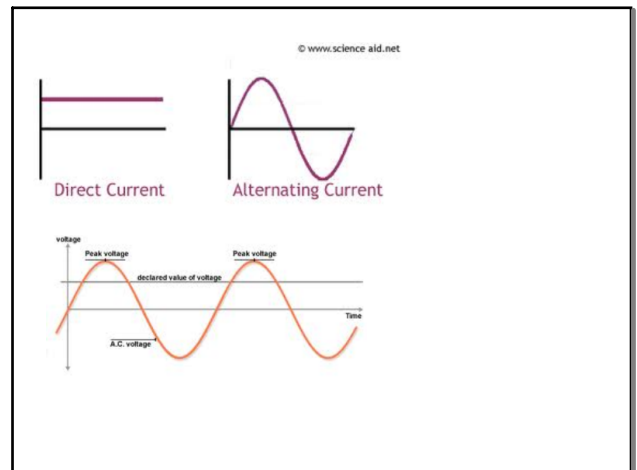
$$I = V/R$$

Problem: A current of 2 amps flows in a 110 volt circuit. Calculate the resistance of the circuit.

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Assuming a circuit has a constant voltage supplied, how will the current change if the resistance increases?

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Power = voltage * current

$$P = V * I$$

How much power is used in a 110 volt circuit if 15 amperes flows in the circuit?



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$$P = VI$$

$$P = 110 \text{ V} * 15 \text{ A} = 1650 \text{ Watts}$$

You have a 100 Watt bulb which operates at 115 Volts. How much current does it draw?

$$I = P/V = 0.87 \text{ Amp}$$

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This space heater is rated 120 V 1650 W. How much current will it draw?

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