

Electrical Power

Light bulbs convert _____ into _____

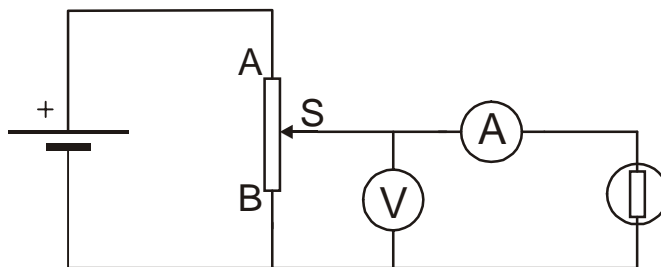
Electric motors convert _____ into _____

The power of a device (light bulb, motor, heater etc) tells us _____
_____ it converts energy. In other words, it tells us the amount
of energy converted _____.

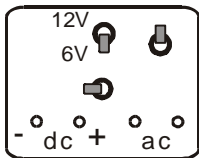
The unit of measurement of power is _____.

Experiment: Comparing Light Bulbs of Different Power

The circuit to be used is shown below.



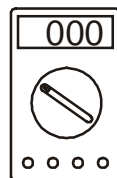
Before attempting to set up this circuit, complete the diagram below.



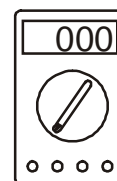
Low voltage
supply unit



rheostat



voltmeter



ammeter



light bulb

Before putting a light bulb into the circuit, reduce the voltmeter reading to zero using the variable resistor.

Put a bulb into the bulb holder.

Use the rheostat to adjust the voltage to the *correct figure for the bulb being investigated*.

Measure the current which flows through the bulb.

Repeat this procedure using different light bulbs. Complete the results table below.

Results

Voltage of Bulb	Current /A	Power of Bulb /W
6V		1.8
6V		0.6
3.5V		1.05
3.5V		0.7
1.5V		0.135

The results suggest that the power of a light bulb can be calculated using the following equation

$$\text{power} = \underline{\hspace{10cm}}$$

Conclusions

1. The power of a light bulb indicates how much light it gives out _____ . Higher power \rightarrow brighter light.
2. Power = _____
3. The number of amps written on a light bulb means the current which will flow through it when it is _____
_____.