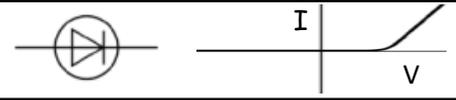
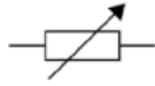
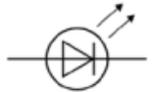
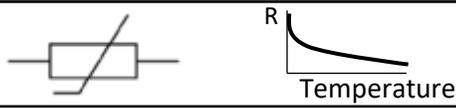
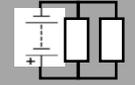


Key points to learn

1. Diode	
	Current only flows one way. Very high resistance in other direction
2. Resistor (Ohmic conductor)	
	Resistance stays constant. Current proportional to pd
3. Variable resistor	Resistance can be set by a human. Used in dimmer switches 
4. LED	A diode that gives off light 
5. Lamp	
	Resistance increases as the temperature increases
6. Thermistor	
	Resistance decreases as the temperature increases
	Used in thermostats
7. LDR	
	Resistance decreases as the light intensity increases (gets brighter)
	Used in automatic lights

Key points to learn

8. Cell and battery	Provides the potential difference (pd) and energy for a circuit. Cell Battery
9. Current, I	Rate of flow of electrical charge. Measured in Amps (A)
10. Charge, Q	Measured in Coulombs (C)
11. Potential difference, V	pd. Energy transferred per unit charge. Measured in Volts (V)
12. Resistance R	Ability to slow current. Measured in Ohms (Ω)
13. Series circuit	Current has only one route
	Current is the same all the way around. Potential difference is shared across components
	Resistances are added together
14. Parallel circuit	Current has different paths it could take 
	Current is shared through each branch. Potential difference is the same across each branch
	Total resistance is lower than the smallest single resistor
15. Voltmeter	Measures pd across a component 
16. Ammeter	Measures current through a component 
17. Fuse	Resistor that melts if current is too high 

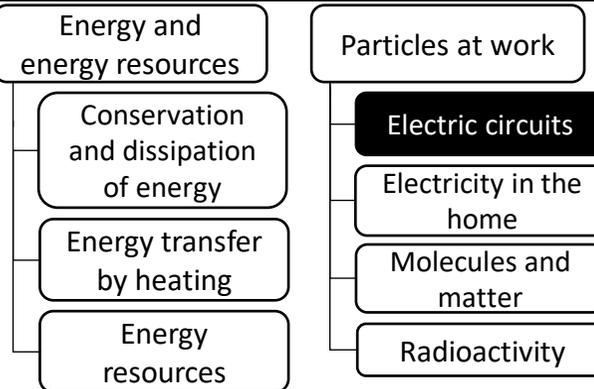
Trilogy P4: Electric circuits

Part of: Electricity

Knowledge Organiser



Big picture (Physics Paper 1)



Background

Electrical power fills the modern world with light and sound, information and entertainment, remote sensing and control. Its use was identified and explored by scientists of the 19th century but it becomes more important every day.

Maths skills

- $$Q = I \times t$$
 Charge = Current x time
 [C] [A] [s]

- $$V = I \times R$$
 Potential difference = Current x Resistance
 [V] [A] [Ω]

(You need to be able to remember and use these)