

Key Stage 3 Precise Learning Points



Unit Number

P4

Unit Title

Electricity & Magnetism

Chapter

Electrical Circuits

Key Scientific Points

1. Electrons have a property called charge and they have negative charge.
2. Current is the rate of flow of electric charge (i.e. electrons).
3. A series circuit is circuit in which the electrons can only follow one route.
4. To measure current we use an ammeter, which needs to be placed in series with the component
5. Current is constant throughout a series circuit.
6. In a parallel circuit has more than one path the electrons can follow.
7. If there is a junction in a circuit some electrons will take one route, other electrons the other route.
8. Resistance is a property which makes it harder for current to move - it is measure in Ohms
9. Adding components to a circuit will change the resistance.
10. In a parallel circuit more current goes down the path with lower resistance
11. The total current into a junction will equal the total current out of that junction.
12. The potential difference of a power supply relates to the energy that it transfers to the electrons.
13. P.d. is measured in Volts.
14. The potential difference across a component relates to the energy that the electrons transfer to the component.
15. To measure the pd across a power supply or component you use a voltmeter.
16. Voltmeters are connected either side of the device so that they can measure the difference
17. The sum of the potential differences across the components in a series circuit equals potential difference across the power supply.
18. In a parallel circuit the potential difference across any branch equals the potential difference of the supply
19. Resistance = $pd \div current$
20. The total resistance in a series circuit is the sum of the all the individual resistances, so the total resistance is larger than that of any individual resistor
21. The total resistance in a parallel circuit is less than any one of the individual resistors.