Voltage and resistance

Answers

KS3 science quick questions

This topic online

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Q	Answer	Remember
1	potential difference	Potential difference is often called voltage for short.
2	volts	Voltage is measured in volts - the names match.
3	voltmeter	The name gives it away: a voltmeter measures volts.
4	parallel	It compares the push on either side of the component, so it goes across it.
5	resistance	High resistance makes it harder for charge to get through.
6	ohms	The symbol is the Greek letter omega: Ω.
7	R = V / I	Push divided by flow: a big push for a small flow means a big resistance.
8	3 Ω	6 ÷ 2 = 3 Ω.
9	decreases	More resistance means it is harder for charge to flow, so less current.
10	low	That is why copper is used for wires - charge flows through it easily.
11	insulator	Plastic coats wires so you do not touch the metal inside.
12	energy	A bigger voltage means each bit of charge carries more energy to the components.
13	3 V	Cells in series add up their pushes: 1.5 + 1.5 = 3 V.
14	5 V	In series, the battery's push is shared between the components: 9 - 4 = 5.
15	6 V	In parallel, every branch gets the full push of the battery.
16	10 V	Potential difference = current × resistance, so 0.5 × 20 = 10 V.
17	3 A	Current = potential difference ÷ resistance, so 12 ÷ 4 = 3 A.
18	increases	Charge has further to squeeze through, bumping into more atoms on the way.
19	doubles	For a fixed resistor, current goes up in step with the push.
20	Two cells give a bigger potential difference (a bigger push), so a larger current flows through the lamp.	More push, same resistance, more flow.

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