Voltage and resistance

Electromagnets 3.2.1 | Part 1, usually Year 7 | 20 quick questions

KS3 science quick questions

Answer online, marked instantly

Activate 2: Electricity and magnetism | Exploring Science 7J

Name: _____ **Date:** _____ **Score:** _____ **/ 20**

1 What is the proper name for the push from a battery that makes charge move round a circuit? Answer in two words.

2 What unit is potential difference measured in?

3 Which instrument is used to measure potential difference?

4 Is a voltmeter connected in series or in parallel with the component it is measuring?

5 What do we call how much a component opposes the flow of current through it? Answer in one word.

6 What unit is resistance measured in? Give the unit name.

7 Write the equation for resistance using potential difference and current.

8 A lamp has 6 V across it and a current of 2 A through it. What is its resistance, in ohms?

9 You add more resistance to a circuit but keep the same battery. Does the current increase or decrease?

10 Does copper wire have a low or a high resistance?

11 Plastic has a very high resistance, so charge can hardly flow through it. What is a material like this called?

12 Potential difference tells you how much of something the cell gives to the charge as it flows. What is it? Answer in one word.

13 Two 1.5 V cells are joined in series, facing the same way. What is their total potential difference, in volts?

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14 A 9 V battery powers two lamps in series. One lamp has 4 V across it. What is the potential difference across the other lamp, in volts?

15 Each branch of a parallel circuit is connected straight across a 6 V battery. What is the potential difference across each branch, in volts?

Year 9 stretch

16 A heater has a resistance of 20 Ω and a current of 0.5 A through it. What is the potential difference across it, in volts?

17 A 12 V supply is connected to a 4 Ω resistor. What current flows, in amps?

18 A wire in a circuit is swapped for a longer piece of the same wire. What happens to the resistance? Answer in one word.

19 A pupil doubles the potential difference across a fixed resistor. What happens to the current? Answer in one word.

20 Explain why a lamp glows more brightly with two cells in series than with one.

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