Electricity

Physics Paper 1 | 30 quick questions

GCSE science knowledge recall

Answer online, marked instantly

Name: _____ **Date:** _____ **Score:** _____ **/ 30**

1 What is the name for the rate of flow of electrical charge?

2 What is the unit of electrical charge? Give the name.

3 A current of 2 A flows for 30 s. How much charge flows, in coulombs?

4 In a single closed loop (series circuit), is the current the same everywhere or different at each point?

5 Write the equation linking potential difference, current and resistance.

6 What is the unit of resistance? Give the name.

7 A resistor has a potential difference of 12 V across it and a current of 3 A through it. What is its resistance in ohms?

8 Which meter measures potential difference? Give the name.

9 A wire is made longer. Does its resistance increase or decrease?

10 For an ohmic conductor at constant temperature, what is the shape of its current-potential difference graph? Answer with two words.

11 As the current through a filament lamp increases, the filament gets hotter. What happens to its resistance?

12 Which component lets current flow in one direction only, because it has a very high resistance in the reverse direction?

13 As the temperature of a thermistor increases, what happens to its resistance?

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14 A light-dependent resistor (LDR) is moved into a dark cupboard. Does its resistance increase or decrease?

15 Two resistors of 4 Ω and 6 Ω are joined in series. What is their total resistance in ohms?

16 Adding a second resistor in parallel with the first makes the total resistance of the circuit do what?

17 In a parallel circuit, how does the potential difference across each branch compare with the supply? Answer in one word.

18 Mains electricity in the UK has a potential difference of about how many volts?

19 What is the frequency of UK mains electricity, in hertz?

20 What colour is the insulation on the live wire in a three-core cable?

21 Which wire in a plug is a safety wire that only carries current if there is a fault?

22 Explain why touching the live wire is dangerous even when a switch is open.

23 A heater draws 5 A from a 230 V supply. What is its power in watts?

24 Write an equation for power using current and resistance only.

25 A charge of 10 C moves through a potential difference of 6 V. How much energy is transferred, in joules?

26 Explain why step-up transformers are used to transmit electricity across the National Grid at a very high potential difference.

27 A plastic rod is rubbed with a cloth and becomes negatively charged. Which particles have moved onto the rod?

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28 Two objects both carrying a negative charge are brought close together. Do they attract or repel?

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29 A cloth is used to rub a plastic rod, and the rod becomes negatively charged. What charge is left on the cloth?

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30 What is the name for the region around a charged object where another charged object feels a force? Answer with two words.

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