Electricity

A-Level Physics · Vocabulary in context

Word	Example
electric current /ɪ'lektrɪk 'kʌrənt/	An **electric current** flows when the switch is closed.
charge carrier /tʃɑ:dʒ 'kærɪə/	In a metal wire, each **charge carrier** is an electron.
electron /ɪ'lektrɒn/	An **electron** has a negative charge.
electrolyte /ɪ'lektrəlaɪt/	Salt water is an **electrolyte**: ions carry the current.
ion /'aɪɒn/	An **ion** is an atom that has gained or lost electrons.
semiconductor /ˌsemɪkən'dʌktə/	Silicon is a **semiconductor**.
hole /həʊl/	A **hole** acts like a positive charge in a semiconductor.
conventional current /kən'venʃənl 'kʌrənt/	**Conventional current** flows from + to −. + −
quantised /'kwɒntaɪzd/	Charge is **quantised**: it comes in small fixed amounts.
elementary charge /ˌelɪ'mentəri tʃɑ:dʒ/	The charge on one electron is the **elementary charge**.
coulomb /'ku:lɒm/	The **coulomb** is the unit of charge.
drift velocity /drɪft və'lɒsɪti/	The electrons move slowly along the wire at the **drift velocity**.
number density /'nʌmbə 'densɪti/	Copper has a high **number density** of free electrons.
series /'sɪəri:z/	Springs in **series** stretch more than one spring.

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potential difference /pə'tenʃl 'dɪfrəns/	The **potential difference** across the lamp is 6 V. 6 V
energy /'enədʒi/	Food gives your body the **energy** it needs to move.
volt /vəʊlt/	The **volt** is the unit of potential difference.
electromotive force /ɪˌlektrəʊ'məʊtɪv fɔ:s/	The battery has an **electromotive force** of 9 V. 9 V
power /'paʊə/	A 60 W lamp has a **power** of 60 watts. 60 W 60
voltage /'vəʊltɪdʒ/	The battery has a **voltage** of 1.5 V. 1.5 V
ohm /əʊm/	The **ohm** is the unit of resistance.
Ohm's law /əʊmz lɔ:/	**Ohm's law** says current is proportional to voltage.
resistance /rɪ'zɪstəns/	A thin wire has a high **resistance**.
parallel /'pærəlel/	Two springs side by side, in **parallel**, are stiffer.
thermistor /'θɜ:mɪstə/	The **thermistor**'s resistance falls when it gets hot.
filament lamp /'fɪləmənt læmp/	A **filament lamp** gets hot when it lights up.
semiconductor diode /ˌsemɪkən'dʌktə 'daɪəʊd/	A **semiconductor diode** lets current flow one way only.
diode /'daɪəʊd/	The **diode** stops current flowing the wrong way.
resistivity /ˌri:zɪ'stɪvəti/	Copper has a low **resistivity**, so it makes good wires.

Word	Example
insulator /ˈɪnsjuːleɪtə/	Plastic is an **insulator**.
lattice vibration /ˈlætɪs vaɪˈbreɪʃn/	Hot metal has more **lattice vibration**, so its resistance rises.
scatters /ˈskætəz/	The metal **scatters** the moving electrons.
light-dependent resistor /laɪt dɪˈpendənt rɪˈzɪstə/	A **light-dependent resistor** has a low resistance in bright light.
light intensity /laɪt ɪnˈtensɪti/	The **light intensity** is greater near the window.
negative temperature coefficient /ˈnegətɪv ˈtemprɪtʃə ˌkəʊɪˈfɪʃənt/	A **negative temperature coefficient** thermistor conducts better when hot.
potential divider /pəˈtenʃl dɪˈvaɪdə/	Two resistors in a **potential divider** share the voltage.

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