D.C. circuits

A-Level Physics · Vocabulary in context

Word	Example
electromotive force /ɪˌlektrəʊˈməʊtɪv fɔːs/	The battery has an **electromotive force** of 9 V. 9 V
energy /ˈenədʒi/	Food gives your body the **energy** it needs to move.
potential difference /pəˈtenʃl ˈdɪfrəns/	The **potential difference** across the lamp is 6 V. 6 V
breadboard /ˈbredbɔːd/	Build the circuit on a **breadboard**.
multimeter /ˌmʌltɪˈmiːtə/	Use a **multimeter** to measure the voltage.
internal resistance /ɪnˈtɜːnl rɪˈzɪstəns/	The battery's **internal resistance** makes it warm.
electrolyte /ɪˈlektrəlaɪt/	Salt water is an **electrolyte**: ions carry the current.
cell /sel/	One **cell** gives 1.5 V. 1.5 V
terminal p.d. /ˈtɜːmɪnl ˌpiː ˈdiː/	The **terminal p.d.** falls when a large current flows.
open circuit /ˈəʊpən ˈsɜːkɪt/	With the switch open, it is an **open circuit**.
short circuit /ʃɔːt ˈsɜːkɪt/	A wire across the battery makes a **short circuit**.
power /ˈpaʊə/	A 60 W lamp has a **power** of 60 watts. 60 W 60
efficiency /ɪˈfɪʃənsi/	A lamp with 20% **efficiency** turns only a fifth of its energy into light. 20%

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ammeter /ˈæmiːtə/	Connect the **ammeter** in series.
voltmeter /ˈvəʊltmiːtə/	Connect the **voltmeter** across the lamp.
LED /ˌel iː ˈdiː/	The **LED** lights up when current flows.
capacitor /kəˈpæsɪtə/	A **capacitor** stores charge.
fuse /fjuːz/	The **fuse** melts if the current is too big.
resistance /rɪˈzɪstəns/	A thin wire has a high **resistance**.
series /ˈsɪəriːz/	Springs in **series** stretch more than one spring.
parallel /ˈpærəlel/	Two springs side by side, in **parallel**, are stiffer.
junction /ˈdʒʌŋkʃn/	At a **junction**, the current splits.
conservation of charge /ˌkɒnsəˈveɪʃn ɒv tʃɑːdʒ/	**Conservation of charge** means charge is never lost.
closed loop /kləʊzd luːp/	Current flows only round a **closed loop**.
conservation of energy /ˌkɒnsəˈveɪʃn ɒv ˈenədʒi/	**Conservation of energy** means energy is never made or destroyed.
Kirchhoff's first law /ˈkɜːkhɒfs fɜːst lɔː/	**Kirchhoff's first law** says the current in equals the current out.
Kirchhoff's second law /ˈkɜːkhɒfs ˈsekənd lɔː/	**Kirchhoff's second law** says the voltages round a loop add up.

Word	Example
potential divider /pəˈtenʃl dɪˈvaɪdə/	Two resistors in a **potential divider** share the voltage.
voltage /ˈvəʊltɪdʒ/	The battery has a **voltage** of 1.5 V.
potentiometer /pəˌtentɪˈɒmɪtə/	A **potentiometer** compares two voltages.
rheostat /ˈriːəstæt/	Turn the **rheostat** to change the current.
sensor /ˈsensə/	A light **sensor** turns on the street lamp at night.
thermistor /ˈθɜːmɪstə/	The **thermistor**'s resistance falls when it gets hot.
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.
transistor /trænˈzɪstə/	A **transistor** works as a switch.
comparator /kəmˈpæreɪtə/	The **comparator** checks which voltage is bigger.
threshold /ˈθreʃəʊld/	The alarm goes off above a **threshold** temperature.
jockey /ˈdʒɒki/	Slide the **jockey** along the wire.
galvanometer /ˌgælvəˈnɒmɪtə/	The **galvanometer** shows zero when the circuit balances.
balance length /ˈbæləns leŋθ/	The **balance length** is where the galvanometer reads zero.
null method /nʌl ˈmeθəd/	A **null method** looks for a zero reading.

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Word	Example
driver cell /ˈdraɪvə sel/	The **driver cell** sends current along the wire.
loop /luːp/	Add the voltages round each **loop**.