Electric Circuits

AP Physics C: Electricity and Magnetism · Vocabulary in context

Word	Example
Electric current /ɪ'lektrɪk 'kʌrənt/	**Electric current** is the flow of charge.
amperes /'æmpeəz/	The heater draws ten **amperes**.
drift velocity /drɪft və'lɒsɪti/	The electrons move slowly along the wire at the **drift velocity**.
cross-sectional area /krɒs 'sekʃənl 'eərɪə/	A thick wire has a large **cross-sectional area**.
current density /'kʌrənt 'densɪti/	**Current density** is the current per unit cross-sectional area of a conductor.
scalar /'skeɪlə/	Mass is a **scalar** because it has no direction.
circuit diagram /'sɜːkɪt 'daɪəgræm/	Draw a **circuit diagram** before you start any calculation.
series /'sɪəriːz/	Springs in **series** stretch more than one spring.
parallel /'pærəlel/	Two springs side by side, in **parallel**, are stiffer.
Resistance /rɪ'zɪstəns/	**Resistance** is voltage divided by current.
resistivity /ˌriːzɪ'stɪvəti/	Copper has a low **resistivity**, so it makes good wires.
Ohm's law /əʊmz lɔː/	**Ohm's law** says current is proportional to voltage.
ohmic /'əʊmɪk/	An **ohmic** resistor gives a straight-line I-V graph through the origin.

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equivalent resistance /ɪˈkwɪvələnt rɪˈzɪstəns/	Two 10 Ω resistors in series have an **equivalent resistance** of 20 Ω. 10 Ω 20 Ω
ideal battery /aɪˈdɪəl ˈbætəri/	An **ideal battery** has no internal resistance.
internal resistance /ɪnˈtɜːnl rɪˈzɪstəns/	The battery's **internal resistance** makes it warm.
terminal voltage /ˈtɜːmɪnl ˈvəʊltɪdʒ/	The **terminal voltage** falls when the battery gives a large current.
ammeter /ˈæmiːtə/	Connect the **ammeter** in series.
voltmeter /ˈvəʊltmiːtə/	Connect the **voltmeter** across the lamp.
Kirchhoff's loop rule /ˈkɜːkhɒfs luːp ruːl/	**Kirchhoff's loop rule** says the voltages around a closed loop add to zero.
Kirchhoff's junction rule /ˈkɜːkhɒfs ˈdʒʌŋkʃn ruːl/	**Kirchhoff's junction rule** says the current into a junction equals the current out.
junction /ˈdʒʌŋkʃn/	At a **junction**, the current splits.
equivalent capacitance /ɪˈkwɪvələnt kəˈpæsɪtəns/	Two 2 μF capacitors in parallel have an **equivalent capacitance** of 4 μF. 2 μF 4 μF
time constant /taɪm ˈkɒnstənt/	The **time constant** is RC. RC
steady state /ˈstedi steɪt/	In **steady state**, the capacitor current is zero.
RC circuit /ˌɑː ˈsiː ˈsɜːkɪt/	In an **RC circuit**, the capacitor charges slowly through the resistor.

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