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Crash Course Physics #29: DC Resistors and Batteries

Name: _____ Date: _____

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1. An ideal _____ provides a constant voltage to a circuit by converting chemical energy into electrical energy.
2. The term used to describe the voltage supplied by an ideal battery is _____.
3. Real batteries have _____ resistance, which causes a drop in voltage.
4. The actual voltage measured between the battery's terminals is called the _____ voltage.
5. In a series circuit, the _____ is the same for all components.
6. In a series connection, the total or _____ resistance is the sum of all individual resistances.
7. In a _____ connection, current splits into different branches, each with its own path.
8. In parallel circuits, the _____ is the same across all branches.
9. The principle stating that what current goes into a junction must come out is the conservation of _____.
10. The unit of resistance is the _____.
11. The formula for power in a circuit is current times _____.
12. In parallel circuits, the _____ resistance is always smaller than the smallest resistor in the network.
13. In a series circuit with identical resistors, adding more resistors causes the total current to _____.
14. In a parallel circuit with identical resistors, the total current _____ compared to a single resistor circuit.
15. Devices like light bulbs provide _____ in a circuit, which affects brightness.

Crash Course Physics #29: DC Resistors and Batteries KEY

1. An ideal **battery** provides a constant voltage to a circuit by converting chemical energy into electrical energy.
2. The term used to describe the voltage supplied by an ideal battery is **emf**.
3. Real batteries have **internal** resistance, which causes a drop in voltage.
4. The actual voltage measured between the battery's terminals is called the **terminal** voltage.
5. In a series circuit, the **current** is the same for all components.
6. In a series connection, the total or **equivalent** resistance is the sum of all individual resistances.
7. In a **parallel** connection, current splits into different branches, each with its own path.
8. In parallel circuits, the **voltage** is the same across all branches.
9. The principle stating that what current goes into a junction must come out is the conservation of **charge**.
10. The unit of resistance is the **Ohm**.
11. The formula for power in a circuit is current times **voltage**.
12. In parallel circuits, the **equivalent** resistance is always smaller than the smallest resistor in the network.
13. In a series circuit with identical resistors, adding more resistors causes the total current to **decrease**.
14. In a parallel circuit with identical resistors, the total current **increases** compared to a single resistor circuit.
15. Devices like light bulbs provide **resistance** in a circuit, which affects brightness.

15 Questions

Answer Key Included

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