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Crash Course Physics #31: Capacitors and Kirchhoff

Name: _____ Date: _____

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- Kirchhoff's _____ Rule states that the total current entering a junction equals the total current leaving it.
- Kirchhoff's _____ Rule says that the sum of all potential changes around a closed loop equals zero.
- In a circuit, each _____ provides a gain in electric potential, or voltage.
- A _____ causes a drop in voltage as current passes through it.
- The voltage drop across a resistor can be calculated using _____ Law.
- A _____ is a point where two or more elements of a circuit connect.
- When using Kirchhoff's Loop Rule, voltage gains and drops must be added so their sum is equal to _____.
- The process of solving for current and voltage in a complex circuit involves setting up and solving a system of _____.
- A capacitor in a DC circuit temporarily stores _____.
- The amount of charge stored by a capacitor is equal to the product of voltage and _____.
- Capacitors connected in _____ have an equivalent capacitance equal to the sum of their individual capacitances.
- Capacitors in series have a total capacitance that is _____ than any individual capacitor.
- In a parallel capacitor circuit, all capacitors experience the same _____.
- In a series capacitor circuit, each capacitor stores the same amount of _____.
- Capacitors do not allow continuous current flow; instead, charge accumulates on each _____.

Crash Course Physics #31: Capacitors and Kirchhoff KEY

- Kirchhoff's **Junction** Rule states that the total current entering a junction equals the total current leaving it.
- Kirchhoff's **Loop** Rule says that the sum of all potential changes around a closed loop equals zero.
- In a circuit, each **battery** provides a gain in electric potential, or voltage.
- A **resistor** causes a drop in voltage as current passes through it.
- The voltage drop across a resistor can be calculated using **Ohm's** Law.
- A **junction** is a point where two or more elements of a circuit connect.
- When using Kirchhoff's Loop Rule, voltage gains and drops must be added so their sum is equal to **zero**.
- The process of solving for current and voltage in a complex circuit involves setting up and solving a system of **equations**.
- A capacitor in a DC circuit temporarily stores **charge**.
- The amount of charge stored by a capacitor is equal to the product of voltage and **capacitance**.
- Capacitors connected in **parallel** have an equivalent capacitance equal to the sum of their individual capacitances.
- Capacitors in series have a total capacitance that is **less** than any individual capacitor.
- In a parallel capacitor circuit, all capacitors experience the same **voltage**.
- In a series capacitor circuit, each capacitor stores the same amount of **charge**.
- Capacitors do not allow continuous current flow; instead, charge accumulates on each **plate**.

15 Questions

Answer Key Included

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