Understanding Voltage and Current Task cards

The objective of these task cards is to help students understand the concepts of voltage and current in electricity. Students will learn to identify the differences between these two concepts, observe their effects in circuits, and practice drawing circuit diagrams.

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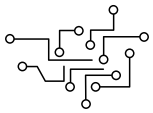
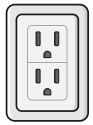


What is the unit of measurement for voltage?

Instructions: Tick the correct answer for the question.

- Amperes
- Volts
- Ohms



What does current refer to in an electrical circuit?

Instructions: Tick the correct answer for the question.

- The flow of water
- The resistance in a circuit
- The steady flow of electrons

If the voltage in a circuit increases, what happens to the current?

Instructions: Tick the correct answer for the question.

- It stays the same
- It increases
- It decreases

What happens to the current if the resistance in a circuit increases while the voltage remains constant?

Instructions: Tick the correct answer for the question.

- It stays the same
- It increases
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Which of the following components is used to measure voltage in a circuit?

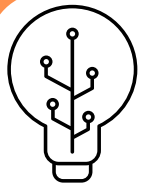
Instructions: Tick the correct answer for the question.

- Ammeter
- Voltmeter
- Ohmmeter

In a series circuit, if one component fails, what happens to the rest of the circuit?

Instructions: Tick the correct answer for the question.

- The current increases
- The current decreases
- The entire circuit stops working



What is the relationship between voltage, current, and resistance known as?

Instructions: Tick the correct answer for the question.

- Ohm's Law
- Kirchhoff's Law
- Faraday's Law

If a circuit has a voltage of 12 volts and a current of 3 amperes, what is the resistance?

Instructions: Tick the correct answer for the question.

- 4 ohms
- 36 ohms
- 9 ohms

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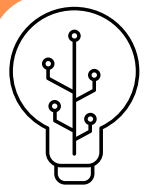

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- ✓ Ohm's Law
- Kirchhoff's Law
- Faraday's Law

If a circuit has a voltage of 12 volts and a current of 3 amperes, what is the resistance?

Instructions: Tick the correct answer for the question.

- ✓ 4 ohms (Using Ohm's Law: $V = I \times R$)
- 36 ohms
- 9 ohms

The flow of ..... is known as current.

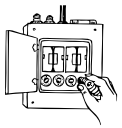
Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
volts	electrons	

..... is the force that makes the electric current flow.

Instructions: Fill in the blanks with the correct words from the word bank.

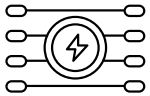
voltage	circuit	current
volts	electrons	



A closed path through which electricity flows is called a .....

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
volts	electrons	



Voltage is measured in .....

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
volts	electrons	

The flow of electrons is known as current.

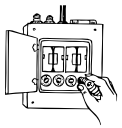
Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
volts	electrons	

Voltage is the force that makes the electric current flow.

Instructions: Fill in the blanks with the correct words from the word bank.

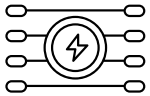
voltage	circuit	current
volts	electrons	



A closed path through which electricity flows is called a circuit

Instructions: Fill in the blanks with the correct words from the word bank.

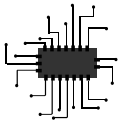
voltage	circuit	current
volts	electrons	



Voltage is measured in volts.

Instructions: Fill in the blanks with the correct words from the word bank.

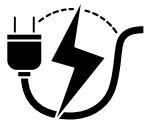
voltage	circuit	current
volts	electrons	



The opposition to the flow of electric current is called .....

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed



A ..... circuit allows electricity to flow, while an ..... circuit does not.

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed

The total amount of electric charge flowing per second is known as .....

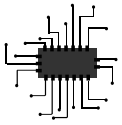
Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed

When voltage is applied across a ....., it causes current to flow.

Instructions: Fill in the blanks with the correct words from the word bank.

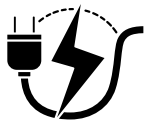
voltage	circuit	current
open	resistance	closed



The opposition to the flow of electric current is called resistance.

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed



A closed circuit allows electricity to flow, while an open circuit does not.

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed

The total amount of electric charge flowing per second is known as current.

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed

When voltage is applied across a circuit, it causes current to flow.

Instructions: Fill in the blanks with the correct words from the word bank.

voltage	circuit	current
open	resistance	closed

Instructions: Match the terms on the left with their correct definitions on the right.

Terms	Definitions
circuit	The force that drives the flow of current
voltage	The steady flow of electrons
current	A closed loop for electrical flow
Amperes	The unit of measurement for current

Explain how increasing the voltage in a circuit affects the current and the components in the circuit.

Instructions: Answer the question above in complete sentences.

Instructions: Draw a simple circuit diagram that includes a battery, a light bulb, and a switch. Label the voltage across the battery and the current flowing through the circuit.

Conduct an investigation to see the effect of different volts in a circuit.

	0V	1.5V	3.0V
Prediction			
Result			

Instructions: Match the terms on the left with their correct definitions on the right.

Terms	Definitions
circuit	The unit of measurement for current
voltage	The steady flow of electrons
current	The force that drives the flow of current
Amperes	A closed loop for electrical flow

Explain how increasing the voltage in a circuit affects the current and the components in the circuit.

Increasing the voltage in a circuit causes the current to increase as well, assuming the resistance remains constant. This means that more electrons flow through the circuit, which can make components like light bulbs brighter. However, if the voltage is too high, it can damage sensitive components.

Instructions: Draw a simple circuit diagram that includes a battery, a light bulb, and a switch. Label the voltage across the battery and the current flowing through the circuit.

Conduct an investigation to see the effect of different volts in a circuit.

	0V	1.5V	3.0V
Prediction			
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