

Activities

1. What **is voltage** in an **electric circuit**?
 - a. The **number of electrons** passing through a point in 1 second
 - b. The **resistance** of a circuit
 - c. The **difference in electrical energy** between two points
 - d. The **opposition** of components to **electric flow**

2. How **is current represented** and **measured** in the International System of Units?
 - a. V, volts
 - b. I, amps
 - c. R, ohms
 - d. A, amperes

3. What does a **voltmeter measure** in an **electric circuit**?
 - a. Resistance
 - b. Current
 - c. Voltage
 - d. Energy efficiency

4. Which **law describes** the **proportional relationship** between **voltage, current, and resistance**?
 - a. Newton's Law
 - b. Ohm's Law
 - c. Boyle's Law
 - d. Kepler's Law

5. How **can we reduce** the **impact of electrical energy consumption** on the **environment**?
 - a. Increase energy consumption
 - b. Use renewable energy sources
 - c. Waste electricity
 - d. Improve energy efficiency

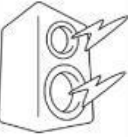
6 **Choose** the correct option.

We can use	a) a pipe (tubería) or a container (contenedor, recipiente)...	to create the voltage that maintains the current .
	b) a battery / bateri / or a generator / yenereita /...	
	c) an electron / elektron / or a charge / charch / ...	

7 **Complete** the sentences.

- a) **Voltage is measured** in _____
- b) **Current is measured** in _____
- c) **Resistance is measured** in _____
- d) **Power is measured** in _____
- e) **Electrical energy is measured** in _____

8 What **is** the **difference between** an **analogue** and a **digital measuring device**? **Complete** the sentences and **listen to** the conversation to check your answers.

	a) An analogue measuring device shows us the measurement with _____.
	b) A digital measuring device shows us the measurement with _____.

9 **Look** at the **circuit** with a **bulb** /bolb/, a **pencil lead** (/led/ mina) and a 4.5 V **lamp battery** (it can be 1.5 V or 3 V). **Answer** the questions.



a) How does the **illumination** of the **bulb** **vary** /veri/ if you **reduce** the **battery voltage** to 3 V?

b) How does the **illumination** of the **bulb** **vary** /veri/ if you **move** the **yellow clip** to the **far end** of the **pencil lead** and **keep** the **voltage** **constant**?

c) Can you **find** a **relationship** between **V**, **I** and **R**?

10 What **current** **flows** through a **bulb** /bolb/ which **has** a **resistance** of 9 in a **circuit** with a **voltage** of 4.5 V? **Draw** the circuit.

11 **Find** the **missing** quantity. **Write out** (*escribe*) the **calculations** in your **exercise book**.

a) $V=9V$; $R = 4.5 \Omega$; $I=$ _____. b) $R=4 \Omega$; $I= 3 A$; $V=$ _____. c) $V= 1.5 V$; $I = 0.5 A$; $R=$ _____.

What **is** **Voltage** /voltich/ and how **is** it **represented** in the *International System* of Units?

How **is** **Current** /karent/ **defined** and what **are** the **units used to measure** /meshad/ it in the **SI** system?

Explain the **concept** of **Resistance** /rizistsens/ and how it **is** **quantified** in terms of **units**.

What **is** **Ohm's Law** and how **is** it **mathematically expressed**?

What **are** the three **ways** **mentioned** in the text to **reduce** the **impact** of **electrical energy consumption** on the **environment**?