ROQED PHYSICS LAB

Measurement of work and power of electric current

Purpose of work: to
learn how to determine the power and work of current in a lamp using an ammeter, voltmeter and clock.

Devices and materials:
043 - Power supply,
099 - Light bulb
041 - Voltmeter,
040 - Ammeter,
042 - Key,
043 - Stopwatchr

Theory: The
work of the electric current in the circuit section is equal to the product of the voltage at the ends of this section by the current strength and the time during which Job. Measured in Joules (J)
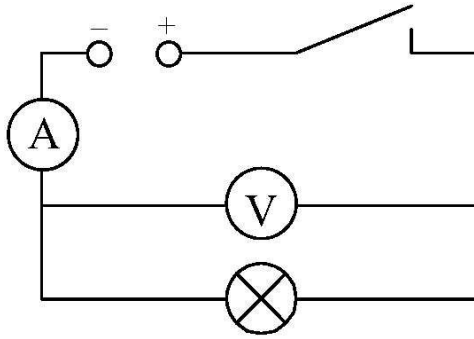**A = UIt.**
The power of the electric current is equal to the product of voltage and current. Measured in watts (W).
P = UI.

Work order:

1. Assemble the electrical diagram shown in the figure.

2. Start the simulation. Voltage will appear in the voltage source and the light will turn on. Enter the results obtained on the measuring devices into the table.

3. Make a formula to calculate the current power.
P = UI.

4. Make a formula to calculate the work of the current.
A = UIt.

5. Table.

Current strength. I, A	Voltage, U, V	Time, t, s	Power, P, W	Current work, A, J

6. Make a conclusion.
AND. The work of the electric current in a section of the circuit is equal to the product of the voltage at the ends of this section by the current strength and by the time during which the work was performed. The power of the electric current is equal to the product of voltage and current.
B. The work of the electric current in a section of the circuit is equal to the product of the voltage at the ends of this section and is inversely proportional to the product of the current strength and the time during which the work was performed. The power of the electric current is equal to the product of voltage and current.
C. The work of the electric current in a section of the circuit is equal to the product of the voltage at the ends of this section by the current strength and by the time during which the work was performed. The power of the electric current is equal to the ratio of voltage to current.