

3º ESO, ELECTRIC CIRCUITS

Name and surname:

Date:

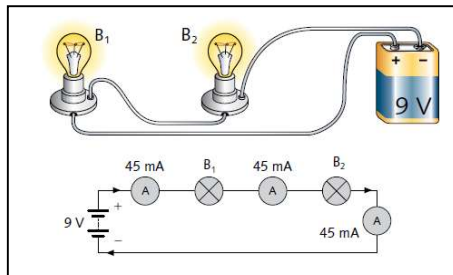
Note:

1. (1p) Join the concept with its definition, symbol, and units (use the numbers).

SYMBOL	CONCEPT	DEFINITION	UNITS
1-V	RESISTANCE	The amount of energy that a generator (electrochemical cell or battery) can transfer to electrons depends on its ...	Amps (A)
2-I	VOLTAGE	It is the charge or number of electrons that flow through the cross-section of a conductor every second.	Volts (V)
3-R	ELECTRIC CURRENT	It is equal to the voltage divided by the intensity of the electric current which travels through the material. This ratio is called Ohm's Law.	Ohm (Ω)

2. (1,5p) Draw a circuit that has a switch to turn a light bulb and a bell on and off. The circuit uses a 6-volt battery as a source of energy.

3. (1,5p) Look at the circuit diagram below. Explain why the measurements of all three ammeters are the same.



4. (2p) Draw a circuit that connects a 10Ω , 15Ω , 20Ω and 25Ω resistors in series with a 12 V battery as the generator. What current will be produced? Will the current change if you connect the resistors in parallel?

5. (2p) Draw a circuit that connects the light bulb below to three batteries in series. What current will flow through the bulb? Will the current change if you connect the batteries in parallel?



6. (2p) Add an ammeter to measure the electric current that passes through the circuit and a voltmeter to measure the voltage:

