

**ELECTRIC CURRENT AND VOLTAGE**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class: 12th Grade **(4° Medio)** Teacher: Valentina Espinoza

Date: April, 2020.

Objective: know and recognize vocabulary related to current and voltage.

1. **Read the text. Then, answer.**

**Current**is the amount of electricity flowing around a circuit. Current carries energy to the components of the circuit; that is why **light bulbs** you use at school light up. Large current makes bulbs **bright**, whereas a low current would make them **dim**.

Current is measured using **ammeters**. Diagram 1 shows an **analogue** ammeter, whereas diagram 2 shows a **digital** multimeter, which is used as an ammeter amongst other uses. You are likely to use a digital ammeter at school these days.

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| **Analogue ammeter** | **Multimeter** |
| **Diagram 1** | **Diagram 2** |

An ammeter is connected in a circuit **in series**. This means it is part of the circuit **loop** (see diagram). The position of the ammeter does not really matter, because the current is the same anywhere in the circuit. Current is **not** used up as it goes around the circuit. The unit of measuring current is called **ampére**. We abbreviate this as **amps**and the symbol is**A.**



Current in a circuit can be changed by changing the circuit **components**. For example, if a circuit has one bulb and the current is 0.3 A, it will drop if we add another bulb. Light bulbs have very small wires in them called **filaments** (see the orange wire in bulb picture).



Filaments make it very hard for the current to flow, so adding another one makes it even harder. We say that filaments carry resistance, which makes it harder for current to go through them. Resistance is measured in **Ohms (Ω)**. The formula used to calculate resistance is:

resistance = voltage / current

**Voltage**is the measurement of how much energy is transferred by electricity. It is measured in **volts** (**V**) with a device called a **voltmeter**. A voltmeter looks like an ammeter but it measures voltage. Voltmeters are always connected in a circuit **in parallel**to a component (see example in diagram: the voltmeter, shown as V, is connected in parallel to the light bulb).



Cells have a voltage marked on them. The bigger the voltage, the higher the current. Chemicals inside cells provide the voltage.

* What is voltaje?
* How can you measure the current?
* What do diagram 1 and 2 show?
* Is it important the position os an ammeter? Why? Why not?
* What is an ampere?
* How can tou measure “resistance”?
* How can you define voltage?
* What is a voltemeter?