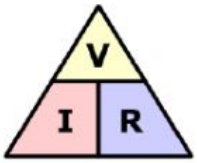
INTRODUCTION TO ELECTRICITY

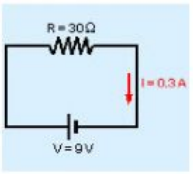
WORKS 2 OHM'S LAW AND POWER

The three basic quantities (Voltage, current and resistance) are related to each other by **ohm's law**

Ohm's Law

$$V = I \cdot R$$





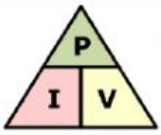
Power (P)

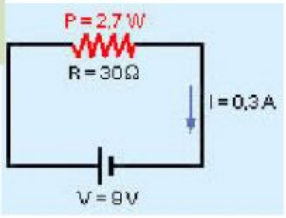
Lamps, stoves, motors, transform electrical energy into light, heat, movement ... The amount of energy that a device consumes in one second is the power (P) and is measured in watts (W)

The more power a device has, the more energy it will consume during the time it is turned on, the brighter a light bulb will shine, the more heat a stove will give, ...

The power consumed by a device is calculated knowing the voltage to which it is connected and the intensity of the current that passes through it.

$$P = V.I$$





1. Calculate the power of a bulb that consumes 25 A of current if it is connected to a 12V battery.

   Data:

   Formula

   I = Solution **P =** W

   V =

2.  A hair dryer has a power of 2200W, calculate the value of current and the value of the resistance if we connect it to the mains with a voltage of 230V.

   Data: Formula

   P = Solution **I =** A

   V =

   Now let's calculate the value of the resistance:

   Ohm`s law Solution **R =** Ω