SPH3U 11.7 Electrical Resistance

1. Electrical resistance

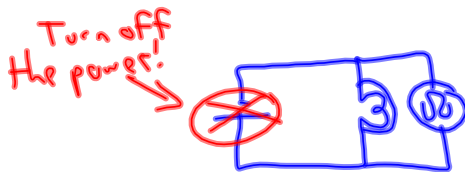| Electrical resistance: R	how difficult it is for electrons to flow through a material.
Resistor:	a device with a specific resistance —W—
Ohm's Law:	the voltage in a conductor is proportional to its current.
equation	$V = IR$. $R = \frac{V}{I}$. Units: Ω (Ohms) — Greek letter omega.

Calculate the resistance of a load with a voltage of 25 V and a current of 410 mA.

$$R = \frac{V}{I}$$

$$I = 410\,mA = 0.410\,A.$$

$$R = \frac{25}{0.410} = \underline{61\,\Omega}.$$

Ⓞ — Ohmmeter:	measures electrical resistance. must be connected in parallel (like voltmeter) and the circuit must have no power.

Turn off the power!

Homework: page 526:   #2-6, 12