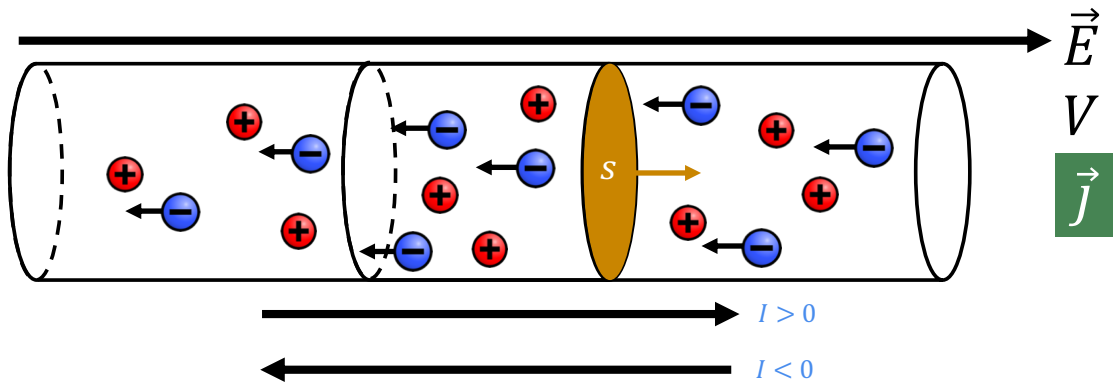


Anteriormente en Física 3



Densidad de corriente

$$\vec{j} = \rho \vec{v}$$

intensidad de

corriente

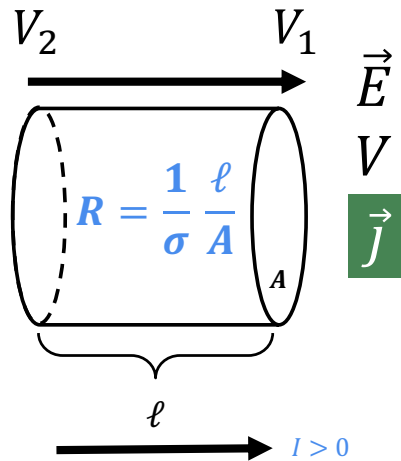
$$I = \int_S \vec{j} \cdot d\vec{S}$$

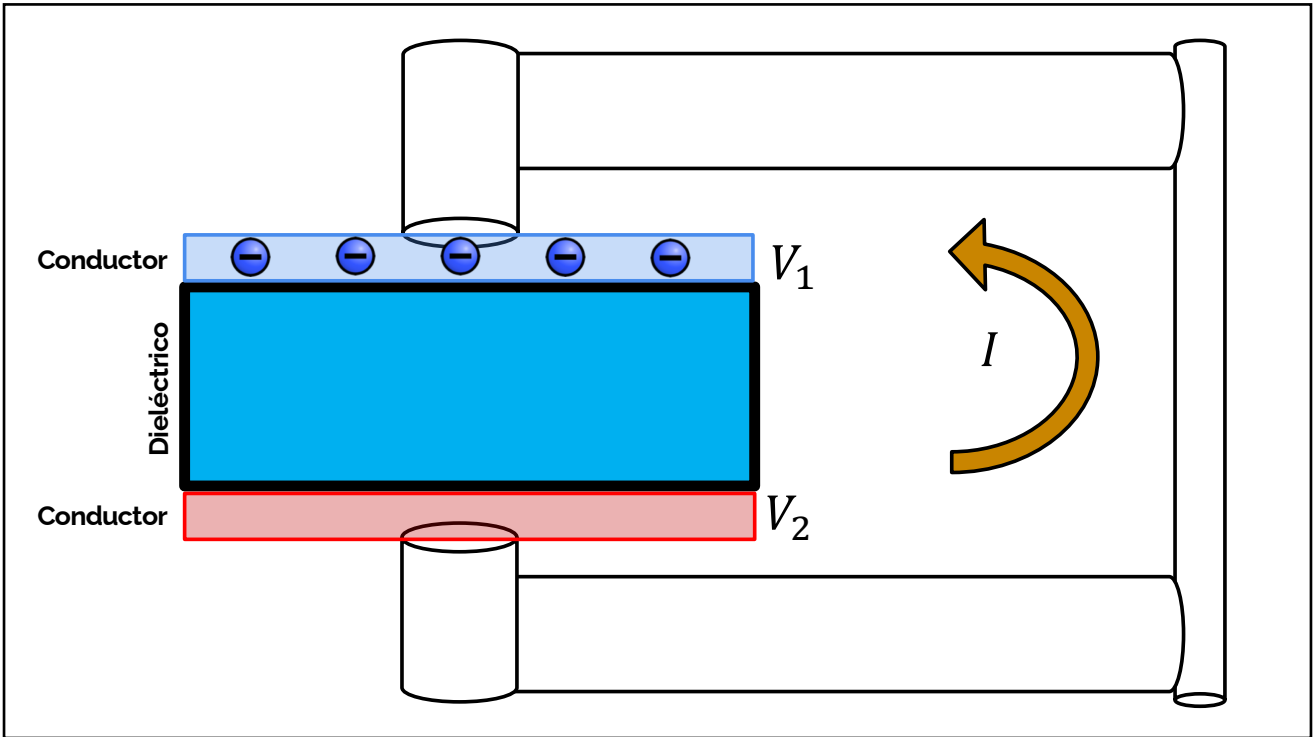
Anteriormente en Física 3

| Material | Resistivity ($\Omega \cdot m$) | Conductivity ($\Omega^{-1} m^{-1}$) |
|-----------|----------------------------------|---------------------------------------|
| Aluminum | 2.8×10^{-8} | 3.5×10^7 |
| Copper | 1.7×10^{-8} | 6.0×10^7 |
| Gold | 2.4×10^{-8} | 4.1×10^7 |
| Iron | 9.7×10^{-8} | 1.0×10^7 |
| Silver | 1.6×10^{-8} | 6.2×10^7 |
| Tungsten | 5.6×10^{-8} | 1.8×10^7 |
| Nichrome* | 1.5×10^{-6} | 6.7×10^5 |
| Carbon | 3.5×10^{-5} | 2.9×10^4 |

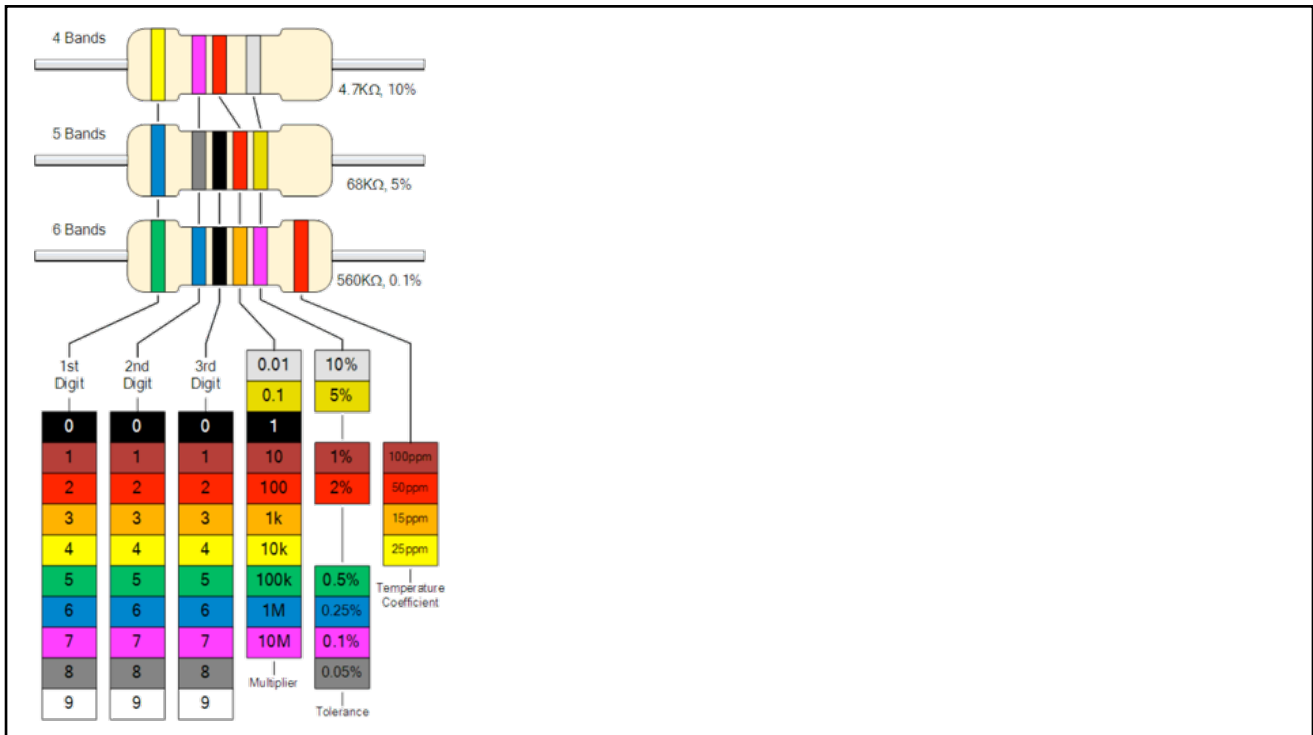
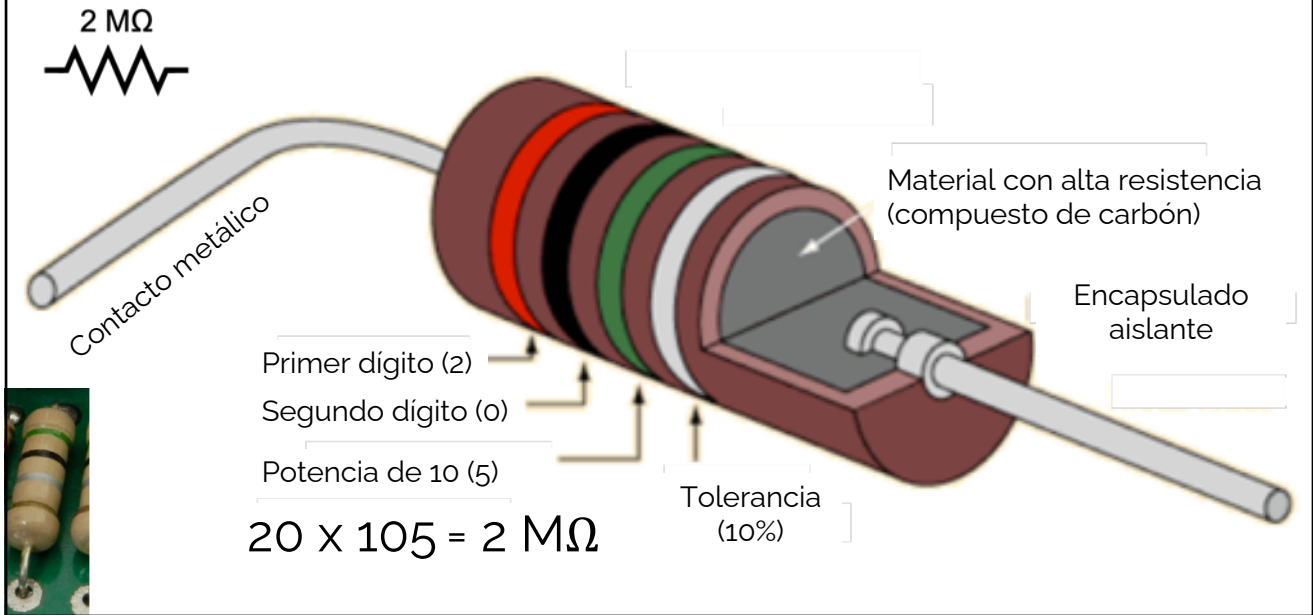
Ley de Ohm

$$V = V_2 - V_1 = I R$$





Circuitos eléctricos: resistencia



Circuitos eléctricos: capacitor






1 y 2: Conductores (aluminio)
3 y 3': dieléctrico
8 y 9: terminales

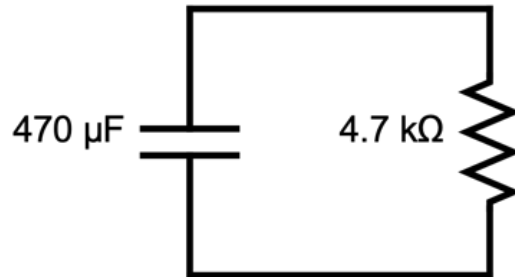


www.explainthatstuff.com
F. M. CLARK
ELECTRICAL CAPACITOR
Filed Nov. 30, 1934
Aug. 10, 1937.
2,089,683

Courtesy US Patent & Trademark Office

Circuitos eléctricos

- Capacitor 
- Cable 
- Resistencia 






Circuitos eléctricos: fuentes



Circuitos eléctricos: pila

+0.76V





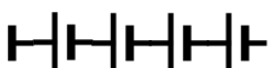
$$\Delta V = 0.76 \text{ V}$$

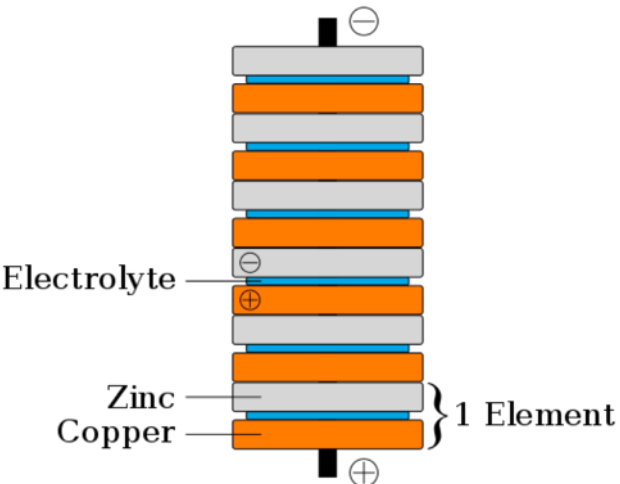
Oxidación:
 $\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$

Reducción:
 $2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2$

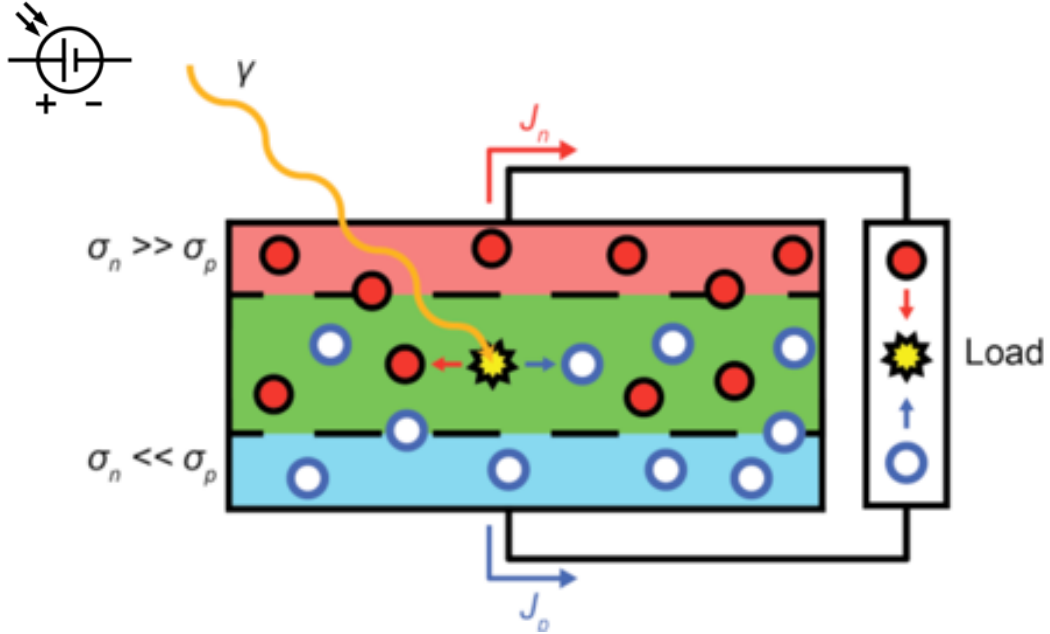
Total:
 $\text{Zn} + 2\text{H}^+ \rightarrow \text{Zn}^{2+} + \text{H}_2$

Circuitos eléctricos: pila

+0.76V  =  +4.56V

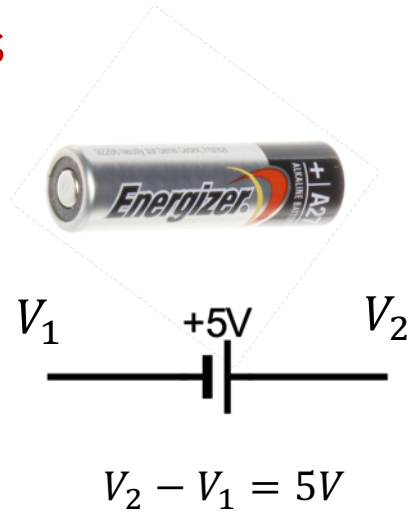


Circuitos eléctricos: **celda fotovoltaica**



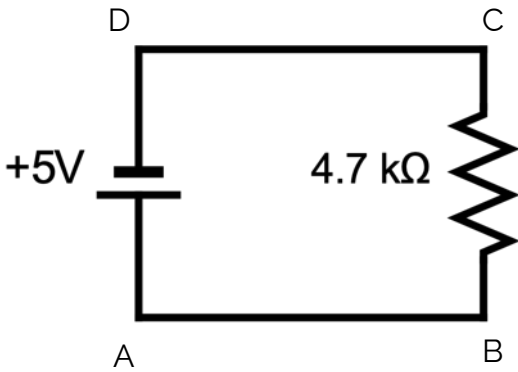
Circuitos eléctricos: **pilas**

- Capacitor $470 \mu\text{F}$
- Cable
- Resistencia $4.7 \text{ k}\Omega$
- Pila $+1.5\text{V}$



Circuitos eléctricos

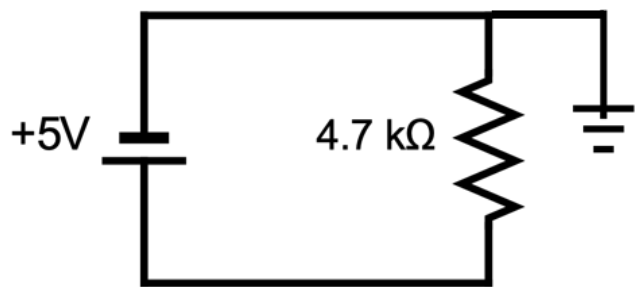
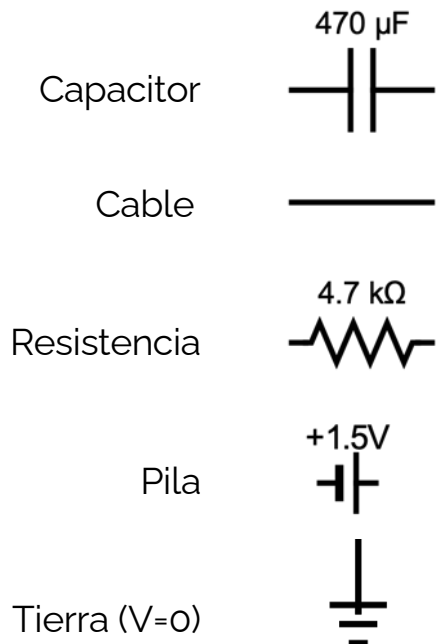
Ejemplo simple



Cuánto vale

- $V_A - V_D$
- $V_B - V_C$
- $V_C - V_D$
- $V_D - V_A$
- $V_B - V_D$
- $I_{A \rightarrow B}$
- $I_{B \rightarrow C}$
- $I_{C \rightarrow D}$
- $I_{D \rightarrow A}$
- $I_{C \rightarrow B}$

Circuitos eléctricos: fuentes



Circuitos eléctricos: representación



ResisThor



CapaciThor



InduThor



TransisThor