Energía Potencial

$$E_{PG} = m\ g\ h$$

$$E_A < E_B$$

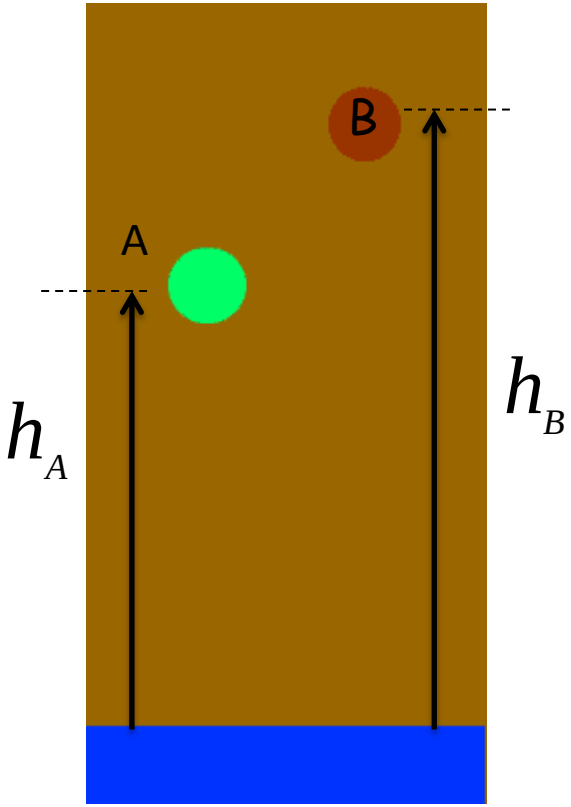
$$W = F\ h$$

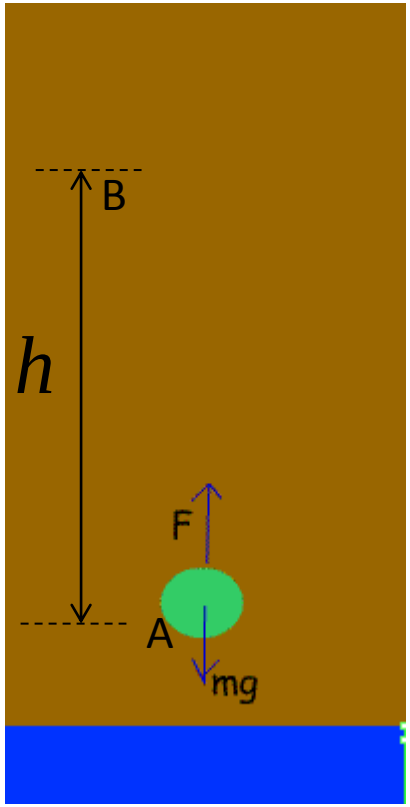
$$W = [N][m] = [J]$$

$$W = E_{final} - E_{inicial}$$

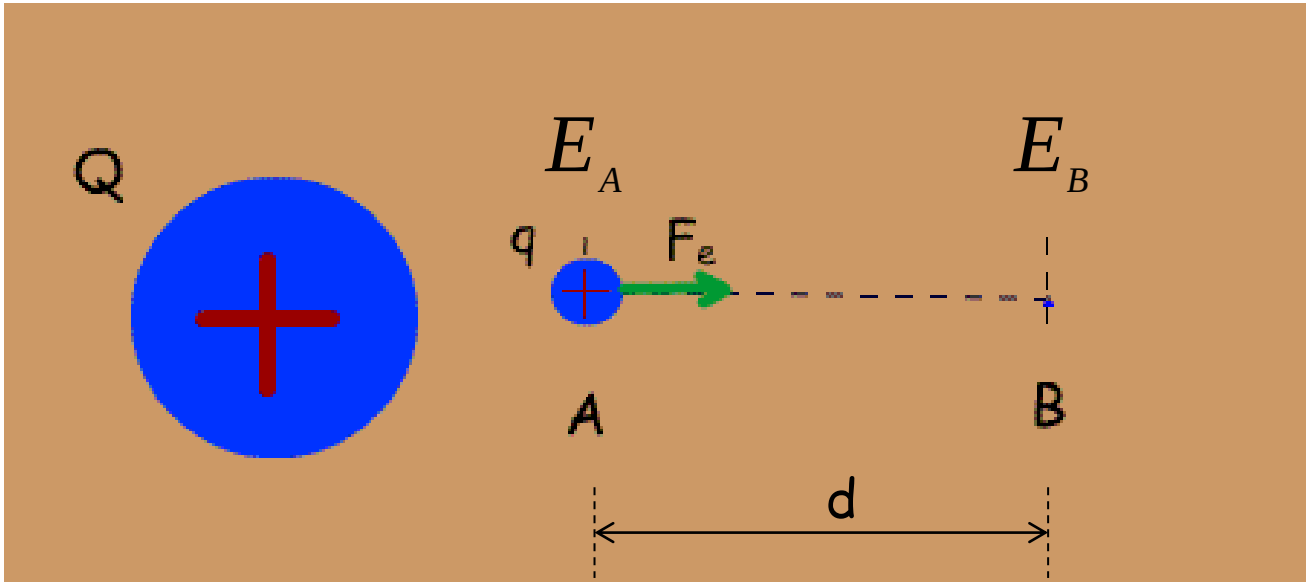
$$W = E_B - E_A$$

$$E_B > E_A \Rightarrow W[+]$$





Potencial Eléctrico

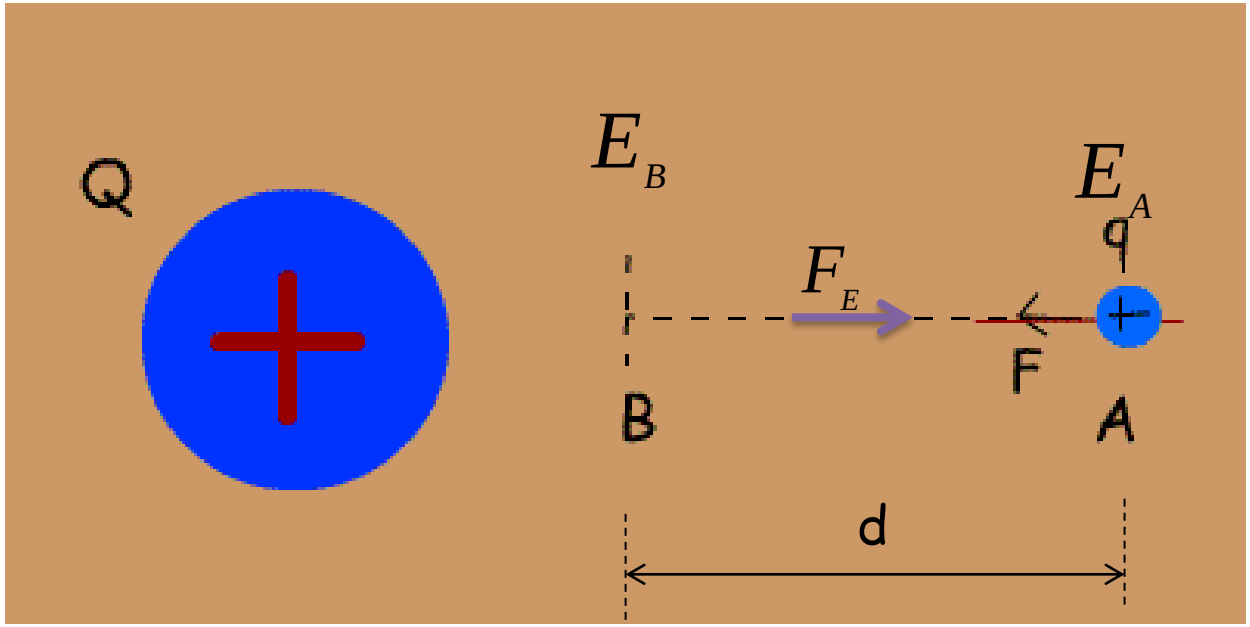


$$E_A > E_B \qquad W = E_{final} - E_{inicial} \qquad W = E_B - E_A$$

$$E_B < E_A \Rightarrow W[-]$$

La energía potencial eléctrica se transforma en energía cinética

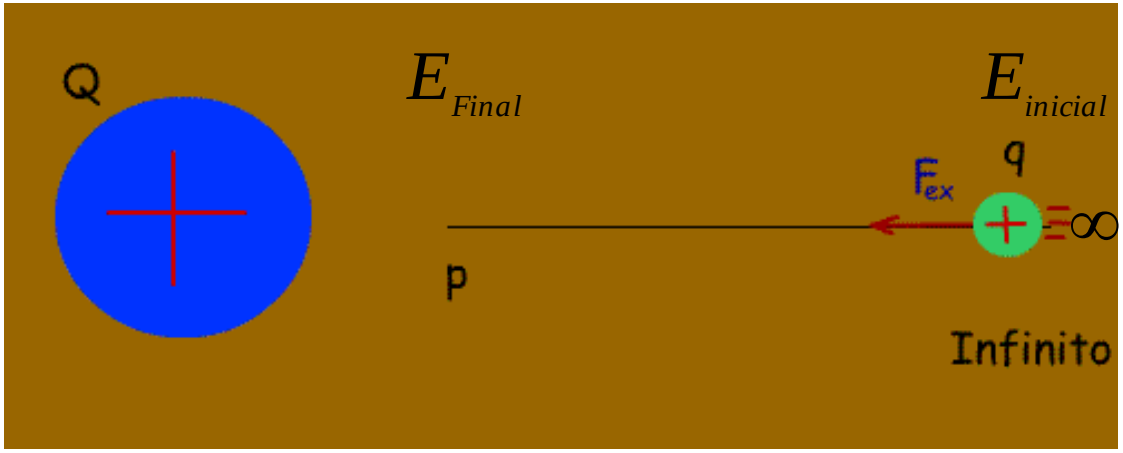
Potencial Eléctrico



$$W = E_{final} - E_{inicial} \qquad W = E_B - E_A \qquad E_B > E_A \Rightarrow W[+]$$

La energía potencial eléctrica se transforma en energía cinética

Potencial Eléctrico



$$V_P = \frac{W_{\infty \to P}}{q}$$

V_P : Potencial Eléctrico [Vol]

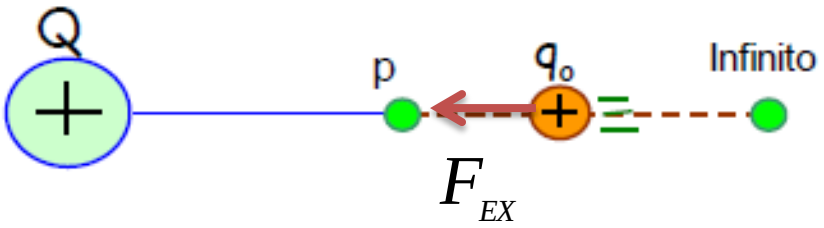
W : Trabajo [J]

q : Carga de prueba [C]

$$V_P = \frac{[J]}{[C]} = [Voltio] = [V]$$

EJEMPLOS

1. Si W= +60 [μJ] y q_o = 2 [μC]; V_p = ?



A) -30 [V]]
B) +30 [V]]
C) N.A.

$$V_P = \frac{W_{\infty \to P}}{q} \Rightarrow V_P = \frac{60.10^{-6}[J]}{2.10^{-6}[C]}$$

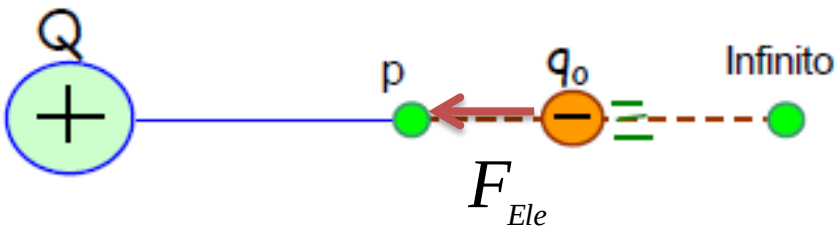
$$V_P = +30\,[Vol]$$

2. Si W= - 40 [μJ] y q_o = - 2 [μC]; V_p = ?

A) +20 [V]]

B) -20 [V]]

C) N.A.



$$V_P = \frac{W_{\infty \to P}}{q} \Rightarrow V_P = \frac{-40.10^{-6}[J]}{2.10^{-6}[C]}$$

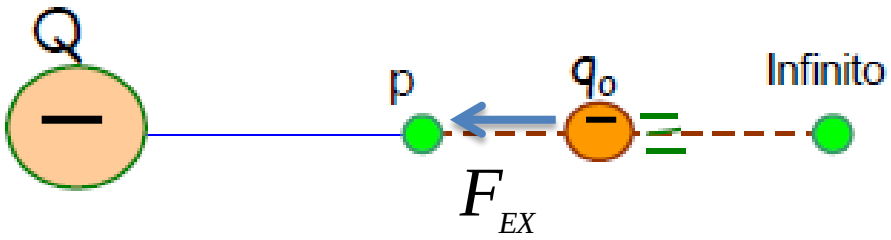
$$V_P = -20\,[Vol]$$

5. Si W= 240 [μJ] y V_p = - 10 [V]; q_o = ?

A) 24 [V]]

B) -24 [V]]

C) N.A.



$$V_P = \frac{W_{\infty \to P}}{q} \qquad q = \frac{W_{\infty \to P}}{V_P} \qquad q = \frac{240.10^{-6}[J]}{10[V]}$$

$$q = 24.10^{-6}[C]$$

$$q = 24[\mu C]$$

Jorge Cabrera