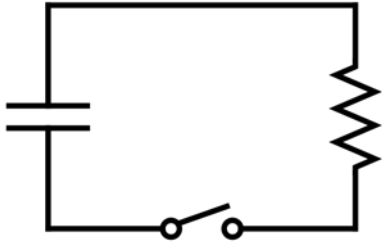


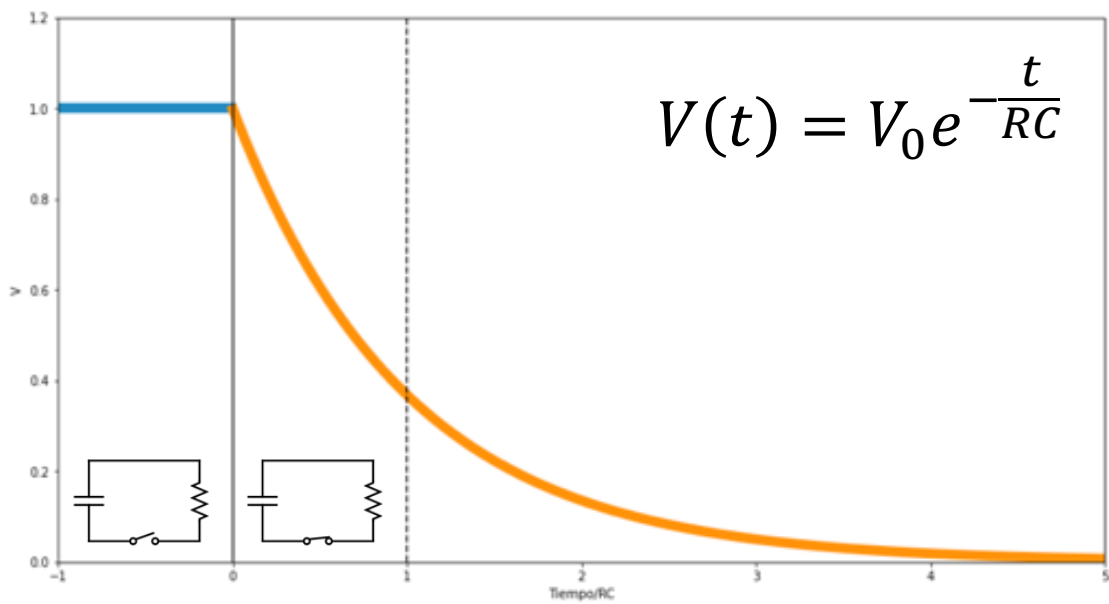
## Circuitos RC # Descarga

$$C \frac{dV}{dt} + \frac{V}{R} = 0$$

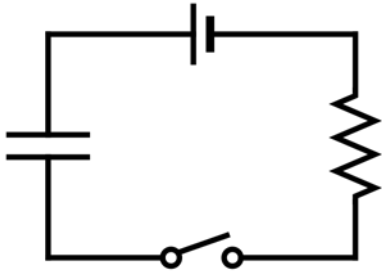


$$V(t) = V_0 e^{-\frac{t}{RC}}$$

## Circuitos RC # Descarga



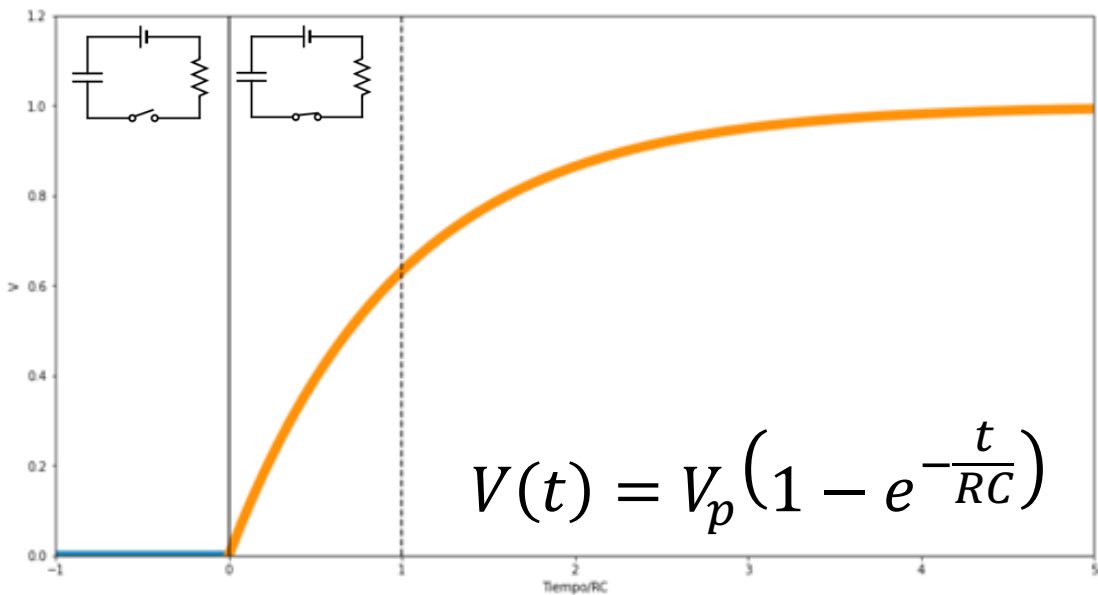
## Circuitos RC # Carga



$$C \frac{dV}{dt} + \frac{V}{R} = \frac{V_p}{R}$$

$$V(t) = V_p \left( 1 - e^{-\frac{t}{RC}} \right)$$

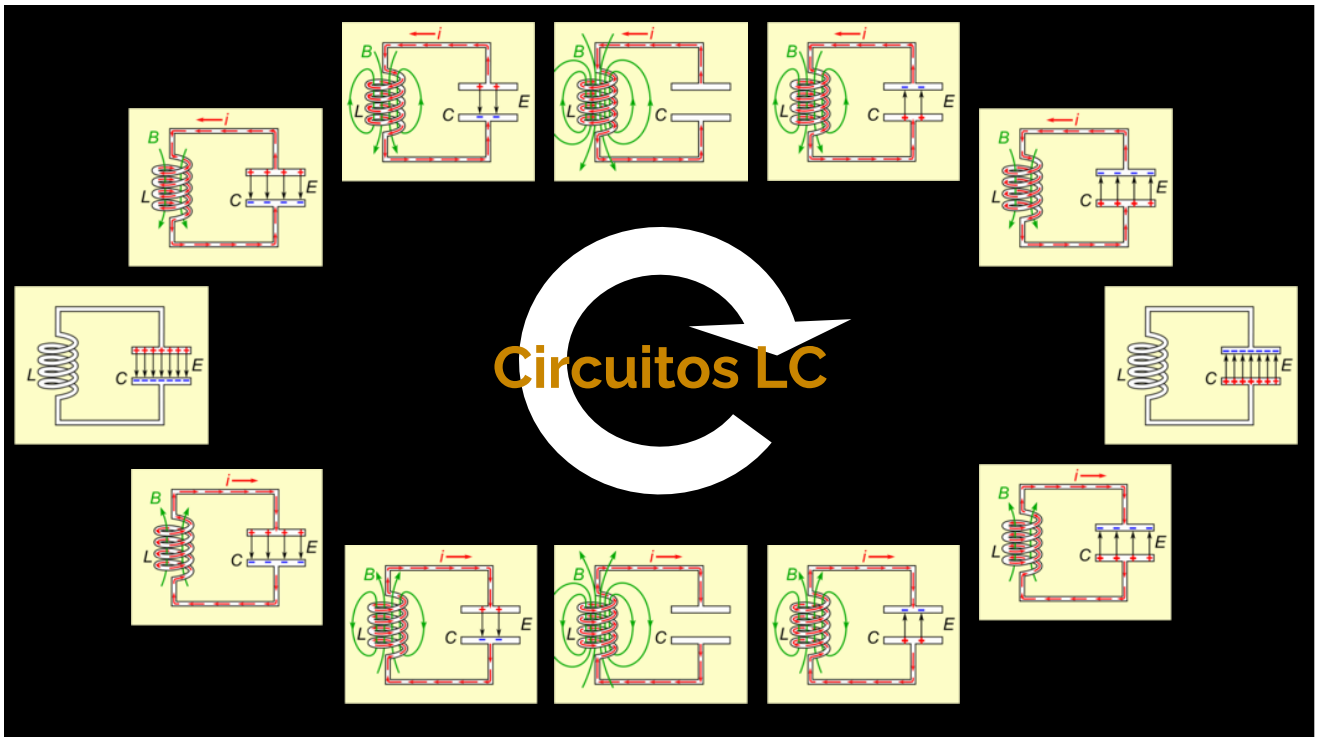
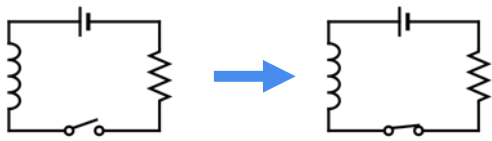
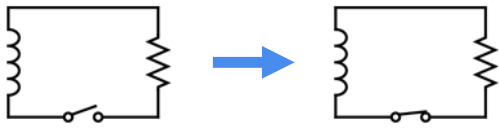
## Circuitos RC # Descarga



$$V(t) = V_p \left( 1 - e^{-\frac{t}{RC}} \right)$$

# Circuitos RL

¿Dónde se almacena la energía?



$$\omega = \frac{1}{\sqrt{LC}}$$

Energy is all electric.      Energy is all  $U_s$ .

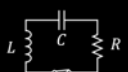
Energy is all magnetic.      Energy is all  $K$ .

Energy is all electric.      Energy is all  $U_s$ .

Energy is all magnetic.      Energy is all  $K$ .

$$\omega = \sqrt{\frac{k}{m}}$$

# ¿Cómo funciona un circuito de corriente alterna?



$$V_L + V_R + V_C = 0$$

$$\frac{dV_L}{dt} + \frac{dV_R}{dt} + \frac{dV_C}{dt} = 0$$

$$L \frac{d^2 I}{dt^2} + R \frac{dI}{dt} + \frac{I}{C} = 0$$



$$m \frac{d^2 x}{dt^2} + \gamma \frac{dx}{dt} + kx = 0$$

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