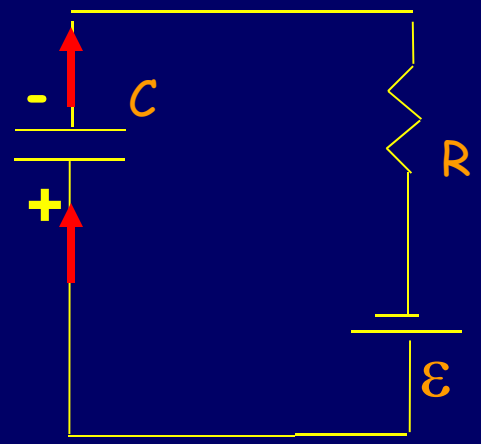
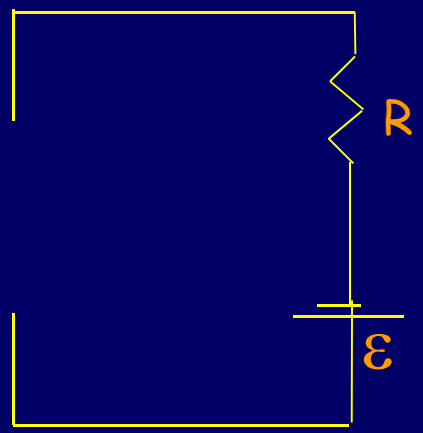
Charging Capacitors: t>0

- $I_0 = \varepsilon/R$
- Positive charge flows
  - Onto bottom plate (+Q)
  - Away from top plate (-Q)
  - As charge builds up, V_C rises (V_C=Q/C)
  - Loop: $\varepsilon - V_C - I\,R = 0$
    - $I = (\varepsilon - V_C)/R$
    - Therefore I falls as Q rises
- When t is very large (∞)
  - $I_\infty = 0$: no current flow into/out of capacitor for t large
  - $V_C = \varepsilon$





Demo