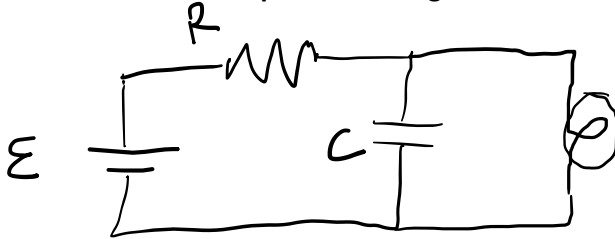


RC Circuits

Derive the solutions for the charge, voltage, and current of a capacitor in a simple RC circuit.

A circuit is designed with a battery and a variable resistor in series with a capacitor and lightbulb, which are connected in parallel. A diagram is shown below...



A multi-meter measures the voltage across the capacitor over time. Sketch a graph of this behavior, and explain each trend.