Source: KBhPHYS201CircuitsIndex

1 | Capacitors

1.1 | Capacitors vs. Batteries

Batteries => Converting PE_{chem} => Eletrical energy

Capacitors => Converting PE_{elec} => Eletrical energy

When you are discharging a battery, they remain at constant voltage until they are used up, at which point the voltage drop like a plate.

When you are discharging a capacitor, there is a linear fall in voltage that is constant.

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Charge remaining: capacitance times voltage

1.2 | Energy on a Capacitor

Energy stored on a capacitor: $E = \frac{V_c * Q}{2}$.

Charge on a capacitor: $Q = C \times V_c$

Farads: $F = \frac{C}{V}$

So, putting this together, the energy stored on a capacitor