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

Voltage on a capacitor:  $E = \frac{V_c * Q}{2}$ . Charge on a capacitor:  $Q = C \times V_c$