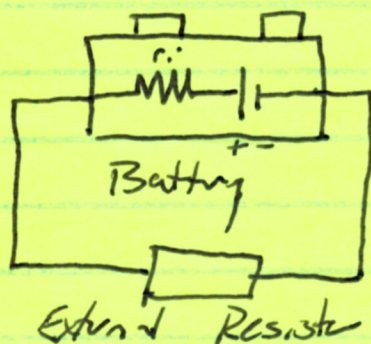


Aim: EMF Electromotive Force & Internal Resistance

- When a battery is connected in a circuit, some energy will be used up inside the battery
- The battery has internal resistance



(Not a Force) EMF: Potential Difference across the terminals of the battery when it is not connected in the circuit

When the battery is ~~connected~~ operating in a circuit (diagram above) the voltage is slightly less than the EMF because of the battery's internal resistance (r)

$$V_{\text{circuit}} = \text{EMF} - I r$$

lost volts