* powerpoint goes along with these notes

Chapter 17 June 27, 2014

Electric Current and Resistance

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| | = battery ⏦ = resistance, like a bumpy road in Toledo

As a battery ages, the resistance gets bigger, so the voltage it supplies becomes less

- electrons against the field.
- As charge moves, it has an electric and magnetic field
  - ↳ if accelerating, it has an electromagnetic radiation that it gives off

- internal voltage Emf - electromotive force but not a force, a voltage is inside a battery and external voltage is outside

potential energy per unit charge

or $\frac{W}{charge}$

voltage drop as time passes ← this gets bigger

$\mathcal{E} - V = Ir$ — current

↳ emf

17.1 Batteries and Direct Current.

- A transformer changes things from alternative current to a direct current

- new, old battery the emf is the same if your not using it to power something

- if a switch is open, its a really big resistance → so you need a really big voltage to get little current to flow

not Δ — current

$\mathcal{E} - Ir = V_{output}$

(emf

Δ ——— Δ

these two change