

SPH3U 11.5 Electric Current**1. Electric current**

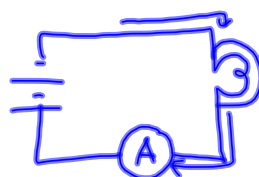
Electric current:	the movement of electrons (or charge).
equation	$I = \frac{Q}{\Delta t}$, <u>Units: A (Amps or Amperes)</u>
Direct current (DC):	electrons move in only one direction.
Alternating current (AC):	electrons move back and forth (alternate directions).

Calculate the amount of current through a wire that has 0.85 C of electrons passing a point in 2.5 min.

$$I = \frac{Q}{\Delta t} = \frac{0.85 \text{ C}}{150 \text{ s}} = \underline{\underline{0.0057 \text{ A}}}$$

$$\Delta t = 2.5 \text{ min} \times \frac{60 \text{ s}}{1 \text{ min}} = \underline{150 \text{ s}}$$

Effects of current on your body:	muscles contract, also, current can cause burns. $I > 0.05 \text{ A}$ is painful. $I > 0.065 \text{ A}$ is dangerous.
Ammeter	used to measure current. <u>must be connected in series.</u>



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