

Source: [KBhPHYS201IntroToElectrostaticsLN](#)

1 | Resistance and Current

Resistance roughly measures how much pressure against current — electron flow there is in a conductor.

Current

Use the variable I , a unit Coulombs/Second, to measure current. This also equals $\frac{\Delta V}{Resistance}$. Big resistance, little current.

-
- So let's figure out resistance
 - $V = \frac{J}{C}$
 - Resistance = $\Omega = \frac{\Delta V}{I} = \frac{Js}{C^2}$
- $I = \frac{C}{s} = \text{Amps}$
- Calculating resistance
 - So, let's think. With a wire of length L and with a wire of area A , if we increase L , the resistance in the wire would increase; if we increase area A , the resistance in the wire would decrease.
 - Resistance = $\frac{L}{A} * ResistivityOfMaterial$ with units $\frac{m}{m^2} * (\Omega * m)$.