**AC over DC**

In Science class, Mr. Smith taught us about the advantages of alternating current (AC) versus direct current (DC).

Things I learned:

* If your skin is thinner than a normal adult’s, it takes less voltage for electricity to get through your skin.
* Kids are easier to electrocute than adults.
* Volts = Amps / Watts.
* Transformers only work with alternating current.
* As volts get bigger, amps get smaller.
* By boosting the volts to 30-50,000 Volts of Alternating Current (VAC) and lowering the amps, a lot of power can be transferred long distances using a smaller wire.
* Near your house the voltage is transformed to a safer 120 VAC.
* Voltage:
  + Electricity energy. The unit is the volt. Voltage is like water pressure.
* Current:
  + The flow of electrons in a circuit. It is measured by amperes of “amps.”
* Watts:
  + Electric power. The unit is the watt.
    - Three equations for determining Voltage, Current and Watts:
      * Watts = Volts \* Amperes
      * Volts = Watts / Amperes
      * Amperes = Watts / Volts
* Resistance:
  + The opposition to the flow of electric current. Unit is Ohms (Ω).
* Car batteries only have 12 volts, so they have very high amperes.

