AP Physics 1/2

Series and Parallel Circuit Construction Lab

**Purpose:** Design and implement an experiment to investigate the behavior of resistors in series, parallel and combination circuits.

**Parameters:**

* + Work in groups of 3-4. Each group member must sign off on the final report.
  + Find the resistance of the resistors you use. (hint: do not trust the drawer labels!)
  + Include measurements of voltage and current. Describe how these were obtained.
  + Build a minimum of three circuits, each with not more than four resistors and one battery.
  + Completely clean up your materials when finished.

**Report:**

* Must include data tables
* Must include circuit schematics for each circuit built. Each circuit should be completely analyzed (V, I and R for each element)
* Must show calculations of effective resistance (Kirchhoff’s rules or series/parallel relationships)
* Compare measured quantities with predicted/calculated quantities.
* Include a conclusion with any generalizations your group can draw from your experiment.