SAINT JOSEPH'S PREPARATORY SCHOOL
PHYSICS LAB — SERIES AND PARALLEL CIRCUITS
April 2011

NAME: _____ DATE:_____ PERIODS: _____

COLLABORATORS:_____

DATE REPORT IS DUE:_____

Materials:

- Velcro tray
- Six resistors from 1 kΩ to 3.3 kΩ.
- One electronic multi-meter.
- One analog ammeter
- Wire leads and connectors

Proceedure:

1. Set the power supply to zero volts.
2. Set up a series circuit using three of the six resistors.
3. Without connecting the power supply measure the resistance of each resistor and the total resistance of the series circuit.
4. Connect the ammeter into the circuit. (See Figure 1.)
5. Adjust the power supply so that the total voltage across the resistors is 15 v.
6. Measure the voltage across and the current through each resistor and the entire circuit. You will need to change the positions of both meters for each measurement.
7. Verify that the circuit behaves as described in class and the text book. Note any discrepancies.
8. Repeat this procedure for a parallel circuit noting the correct connection of the ammeter. (See Figure 2.)
9. Repeat this procedure for two other (complex) circuits and verify that the results are consistent with theory. (See figures 3 and 4.)

Be sure to draw a diagram of each circuit before making the connections.

You will need one diagram for each circuit.
The diagram should not include the meters. They are to be added to the basic circuit diagram.

Be sure to have each circuit checked before connecting the power.

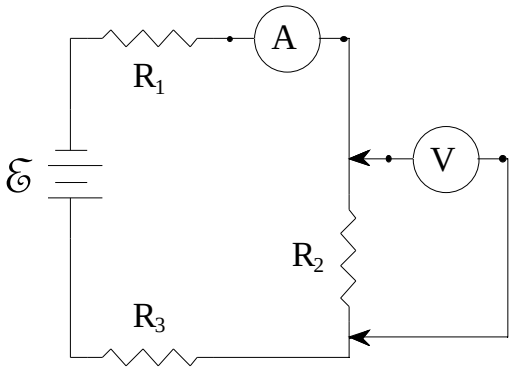

Figure 1

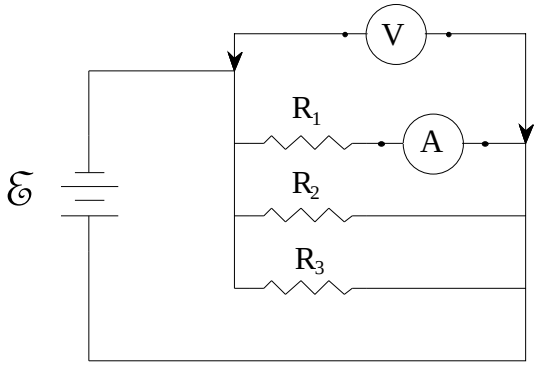

Figure 2

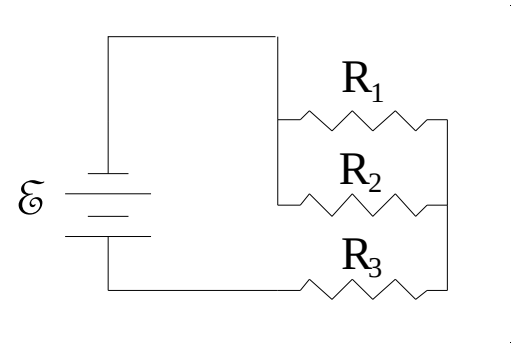

Figure 3

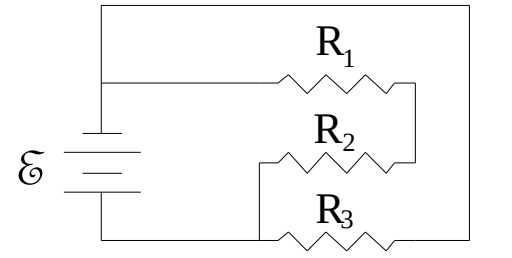

Figure 4