Title: Parallel and Series Circuits

Purpose: to demonstrate parallel, series, and combined circuits

Background: The basic qualitative difference between parallel and series hookups is the way they draw power from a voltage source. A parallel configuration of 2 resistors is effectively a smaller resistance than either resistor alone. A series configuration of the same 2 resistors is effectively a greater resistance than either resistor alone. Parallel combinations will tend to cause bulbs to glow brighter than series combinations. Mixed configurations will affect the brightness in combined ways, depending on how the system is configured. The diagrams below show various parallel, series, and combined connections on a lamp board, in which lamp bulbs are used as the resistors.

Materials:

Battery	Lamp board
Lamp bulbs	Clip leads

Please refer to the diagrams a below for samples of parallel, series, and combined circuits.

Procedure:

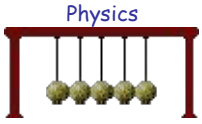
1. Set up a parallel circuit.
2. Loosen light bulbs one by one and in various combinations.
3. Record what happens to the brightness of each bulb.
4. Set up a series circuit
5. Loosen light bulbs one by one and in various combinations.
6. Record what happens to the brightness of each bulb.
7. Set up a parallel circuit.
8. Loosen light bulbs one by one and in various combinations.
9. Record what happens to the brightness of each bulb.
10. Draw each circuit that you set up and test, indicating the connections and where the light bulbs are removed!

Results: Data and drawings

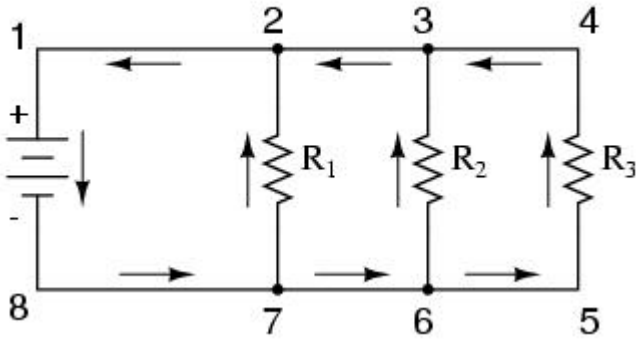
Discussion: NOT REQUIRED

Conclusion: One statement each about parallel, series, and combined circuits

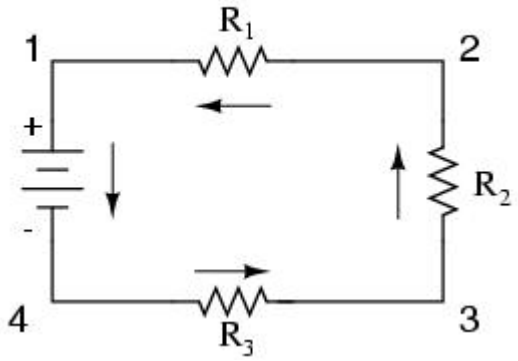
Reflection: Personal Statement



Parallel



Series



Series-parallel