

## **SERIES VS. PARALLEL CIRCUITS**

### Series Circuits:

- Current is the same in each device since there is only a single pathway for the charge to flow.
- Resistance in the circuit is the sum of all the individual resistances of each device.
- As the number of resistors increases, the total current decreases.
- Voltage supplied by power source equals the sum of all the individual voltages across each individual device.
- The voltage across each device is the current times the resistance of that device.

### Parallel Circuits:

- Each branch has the same voltage across it since each branch has its own connection to the power source.
- The sum of the individual currents in each branch equals the total current supplied by the power source since the current from the source divides among the individual branches in the multiple pathway circuit.
- As the number of branches increases, the total resistance of the circuit decreases
- As the number of branches increases, the total current supplied by the source increases.

