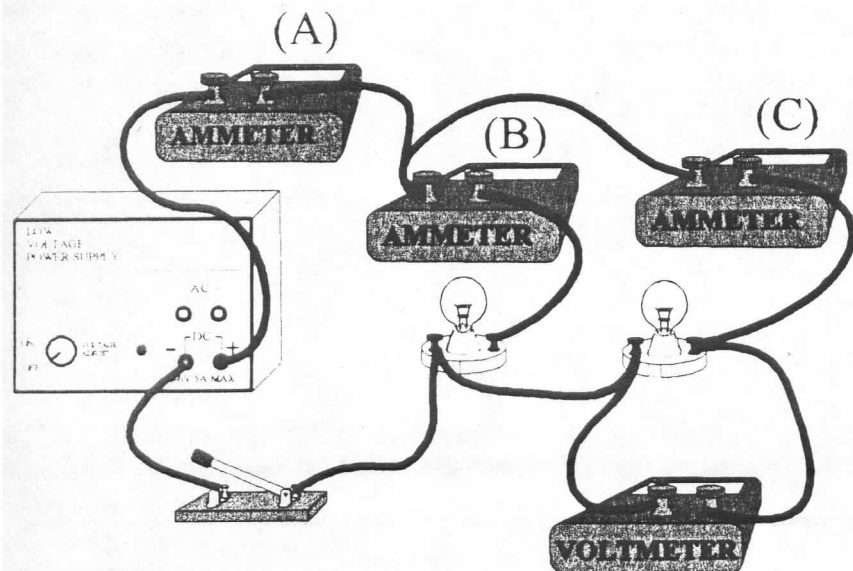# Lesson 3: Parallel Circuits

Draw the Schematic Circuit Diagram for the circuit below.

Circuit Picture   Schematic Diagram

2) When bulbs (or anything else) are connected side by side so that the current must divide at branch points, we call it a _____ circuit.

) In the above circuit, if the voltage (potential) gain across the source is 1 Volt, what does our model predict about the voltage drop across the light bulb will be? Explain.

4) What does our model predict the voltage drop across the other light bulb will be? Explain.

5) If the voltage drop across the light bulbs is the same, what does our model predict the current through the bulbs will be? Explain.

6) Assume both bulbs are identical. In the above circuit, if the electric current through Ammeter (C) is one coulomb per second, then the current through Ammeter (B) will be _____ coulomb per second. What does our model predict about the electric current through Ammeter (A)? Explain.

7) If more bulbs are connected in parallel, what does our model predict about the brightness of each bulb? Explain

8) If more bulbs are connected in parallel, what does our model predict about the current in the main circuit [Ammeter (A)]?

9) If more bulbs are connected in parallel, what does our model predict about the current in the branches [Ammeter (B) and Ammeter (C) or any additional ammeter]?

10) As more bulbs are connected in parallel, what will happen to the number of paths for the current to flow?

11) In a parallel circuit, if one light bulb burns out, what does our model predict will happen to
   A) the current in the main circuit [Ammeter (A)]?

   B) the current in the branch circuits [Ammeter (B) or (C)]?

   C) the brightness of the remaining bulbs?

12) Is there ever any parallel circuit where one branch gets all the current and the other gets none ?"