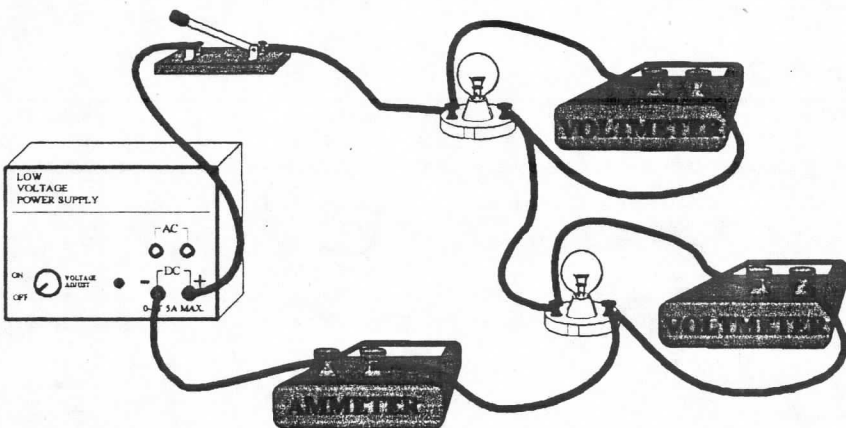


Lesson 2:

Series Circuits

- 1) Draw the Schematic Circuit Diagram for the circuit below.

Circuit Picture



Schematic Diagram

- 2) When two bulbs are connected in series, what does our model predict will happen to the
A) ELECTRIC CURRENT through each bulb?

B) ELECTRIC POTENTIAL (VOLTAGE) across each bulb?

- 3) If we ignore the meters, how many different paths are there for the electrons to get around the circuit? Another way of saying this is "What is the number of paths for the current?"

- 4) In the above series circuit, if one light bulb burns out,
A) what does our model predict will happen to the current?

B) what does our model predict will happen to the brightness of the light bulb?

- 5) If we ignore the meters, what does our model predict about where we can place the switch in this type of circuit?

- 6) When bulbs (or anything else) are connected one after the other in a single path, we call it a _____ circuit.

More Practice Connecting Circuits & Drawing Schematic Diagrams

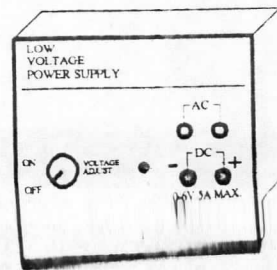
Draw lines on the following diagrams to represent conductors in order to complete the circuits as stated.

1) Create a circuit in which

i) the switch controls current leaving the power supply,

ii) the voltage across the bulb is measured.

2) Draw the schematic diagram for this circuit



3) Create a circuit in which,

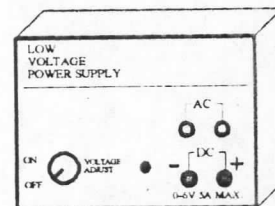
i) the switch controls current returning to the power supply,

ii) the two bulbs are connected in SERIES,

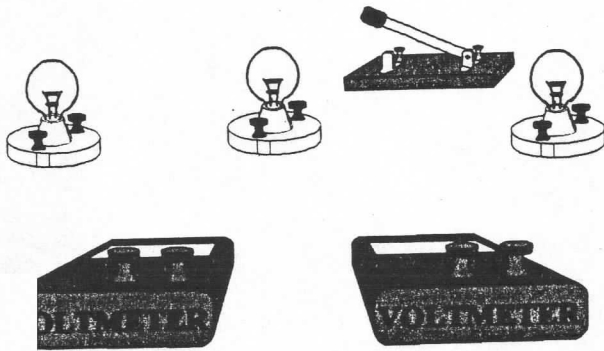
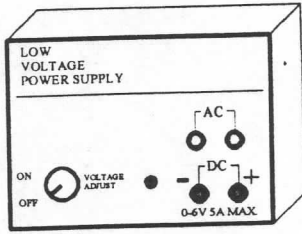
iii) voltage is measured across the first bulb,

iv) voltage is measured across BOTH bulbs.

4) Draw the schematic diagram for this circuit.

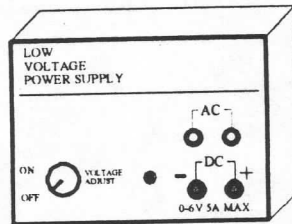


5) Create a circuit in which,



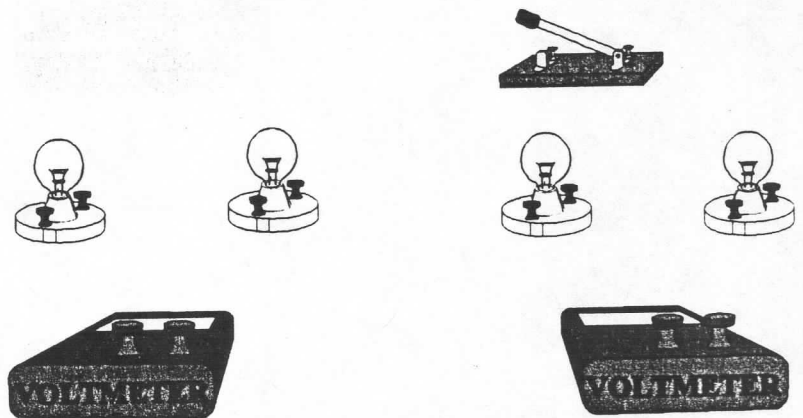
- i) the switch controls the current between the 2nd and 3rd bulb,
 - ii) all three bulbs are connected in SERIES,
 - iii) voltage is measured across the first two bulbs,
 - iv) voltage is measured across the last bulb.
- 6) Draw the schematic diagram for this circuit.

7) Create a circuit in which,



- i) a switch controls the current between the 3rd and 4th bulb,
- ii) all four bulbs are connected in SERIES,
- iii) voltage is measured across the first two bulbs, and
- iv) voltage is measured across the last two bulbs.

8) Draw the schematic diagram for this circuit.

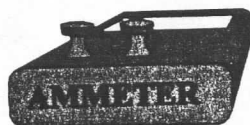
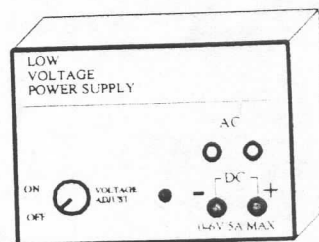
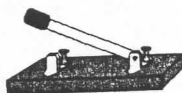


9) Create a circuit in which

the switch controls current leaving the power supply.

ii) the current flowing into the bulb is measured.

10) Draw the schematic diagram for this circuit.



Create a circuit in which,

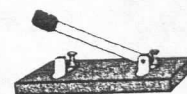
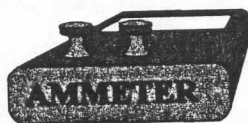
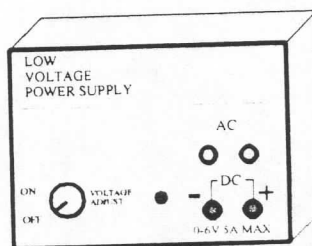
i) the switch controls current returning to the power supply,

ii) the two bulbs are connected in SERIES,

iii) current is measured flowing into the first bulb,

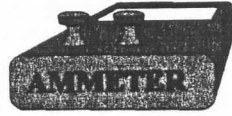
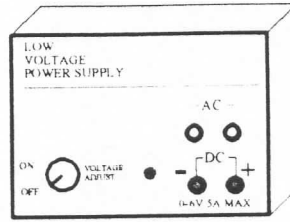
iv) current is measured flowing out of the last bulb.

12) Draw the schematic diagram for this circuit.

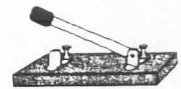


13) Create a circuit in which,

- i) the switch controls the current between the 2nd and 3rd bulb,
- ii) all three bulbs are connected in SERIES,
- iii) current is measured flowing into the first bulb,
- iv) current is measured leaving the switch.

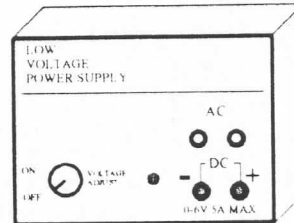


14) Draw the schematic diagram for this circuit.

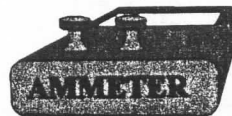
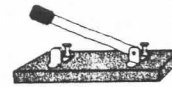


15) Create a circuit in which,

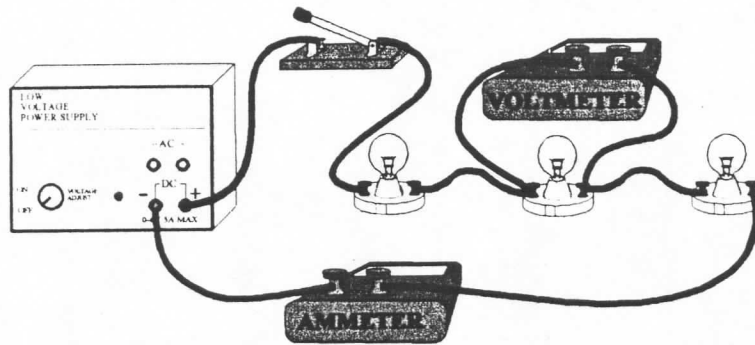
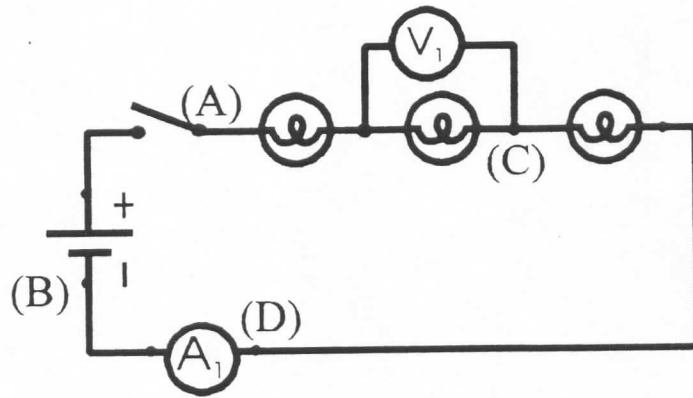
- i) a switch controls the current returning to the power supply,
- ii) all four bulbs are connected in SERIES,
- iii) current is measured between the first two bulbs, and
- iv) current is measured between the last two bulbs.



16) Draw the schematic diagram for this circuit.



17) Label all the points indicated on the schematic diagram on the circuit picture.



18) Label all the points indicated on the circuit picture on the schematic diagram.

