

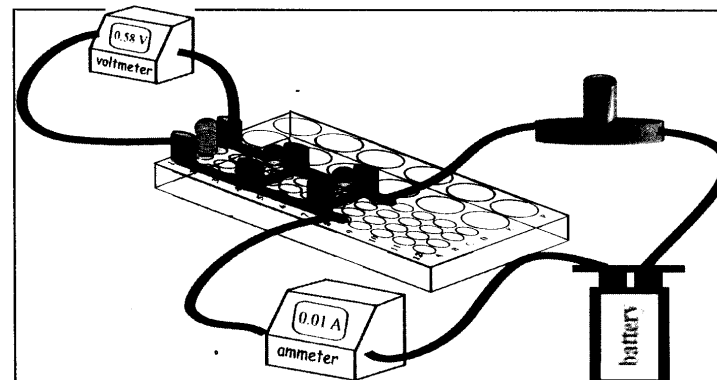
Electrical Circuits - bulbs in Parallel

Apparatus

For this experiment you will need the following apparatus:-

- Digital ammeter and voltmeter or a multi-meter
- 3 bulbs with bulb-holders
- 1 9V battery with connector
- 1 variable resistor
- Comboplate
- 6 springs
- 2 copper strips
- 6 leads with jack-plugs.

Record the readings on the meters in the table on your results and conclusions sheet.



Procedure

- Place springs in wells A1, D1, A4, D4, A7 and D7.
- Connect the two lines of springs using the 2 copper strips.
- Connect bulb-holders without the bulbs to the 3 sets of springs as shown in the diagram opposite.
- Connect your ammeter to the end of the copper strip running down line 1 and then connect this to the battery. The battery should then be connected to the variable resistor as shown in the diagram.
- Screw a bulb into the first bulb-holder across A1 and D1. Note the brightness of the bulb.
- Break the circuit by pulling out one of the leads from your ammeter. This stops the battery from being drained too quickly.
- Take one of your other bulbs and bulb holders and connect it across the springs in A4 and D4.
- Now complete the circuit again by reinserting the wire into your ammeter. Record your meter readings and in the table
- Unscrew the second bulb. What happens to the brightness of the first bulb? Does it go out or stay on.
- Break your circuit again to save your battery.
- Add a third bulb to the circuit and screw in all three bulbs. Record your meter readings.
- Investigate the effect of unscrewing and screwing different combinations of bulbs on the circuit.