

6.3

Practical activities

1 Series and parallel circuits

Purpose

To compare series and parallel circuits.

Materials

- three globes (preferably 6V)
- power pack
- connecting wires
- switch
- ammeter
- voltmeter



Procedure

- 1 In your workbook, construct a table like the one in the Results section.
- 2 Connect up the basic circuit shown in Figure 6.3.15.

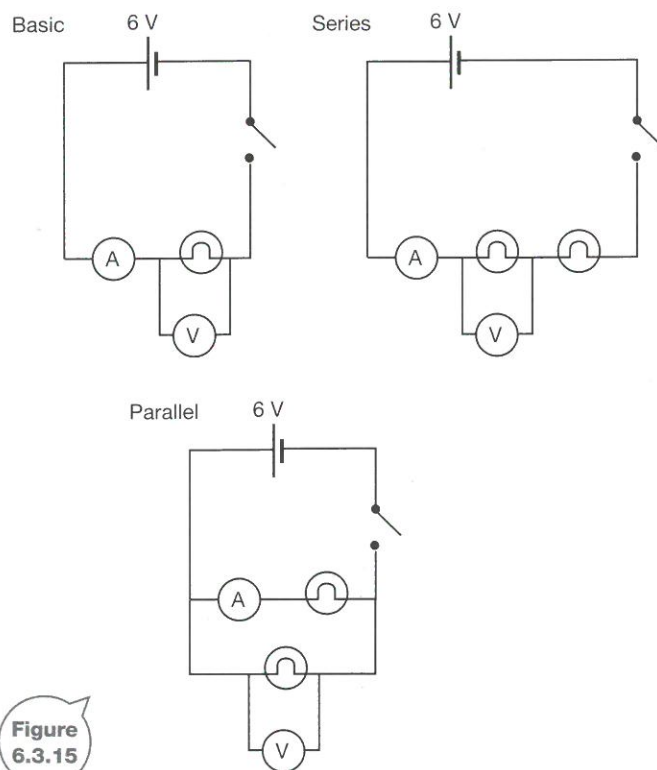


Figure 6.3.15

- 3 Measure the current flowing through the globe, and the voltage lost across it.
- 4 Add another globe to construct the series circuit shown in Figure 6.3.15.
- 5 Note the brightness (very bright/bright/dull/very dull) of the globes, and measure the current and voltage.
- 6 Remove the second globe and re-connect it so that it is in parallel (as shown in Figure 6.3.15).
- 7 Once again, note the brightness of the globes, and measure the current and voltage.

Results

Record your results in the table.

	Single globe	Globes in series	Globes in parallel
Brightness			
Current (A)			
Voltage (V)			

Discussion

- 1 **Describe** what happened to the current when another globe was added in series.
- 2 **Use** your knowledge of resistance to **explain** why this happened.
- 3 Adding another globe in series makes all the globes duller. **Explain** why.
- 4 **Explain** why adding globes in parallel makes no difference to their brightness.