

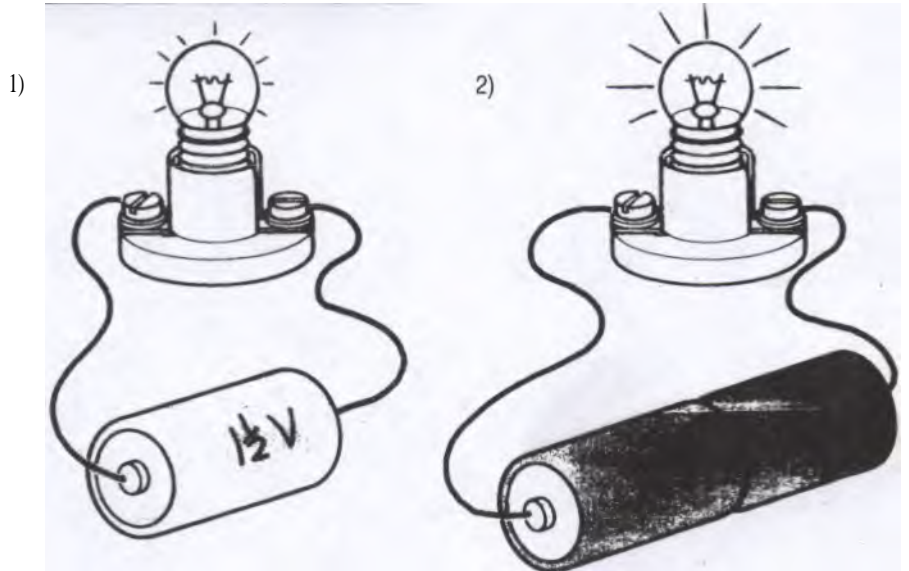
Basic electrics — revision

Voltage and current

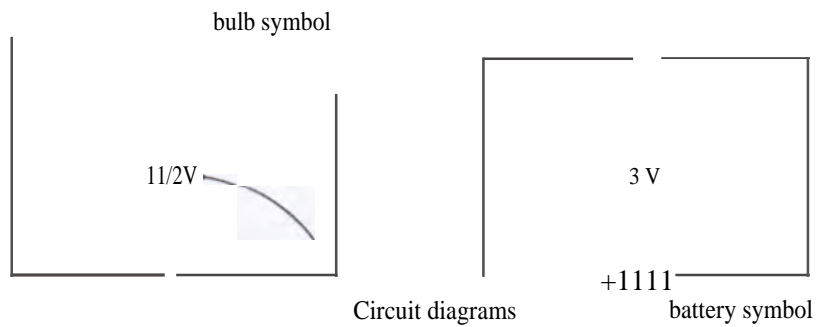
A battery is a source of electrical energy — it provides the 'pressure' which causes electricity to flow. We measure this electrical pressure in volts, V. The higher the voltage, the greater the pressure.

The flow of electricity is called current and is measured in amps, A

If a single battery makes a bulb glow dimly, two batteries connected in series as in circuit 2 will make it glow brighter. This happens because when batteries are connected in series their voltages 'add up'. Two similar batteries connected in series produce twice the electrical pressure. The greater the electrical pressure (in a given circuit) the higher the current.

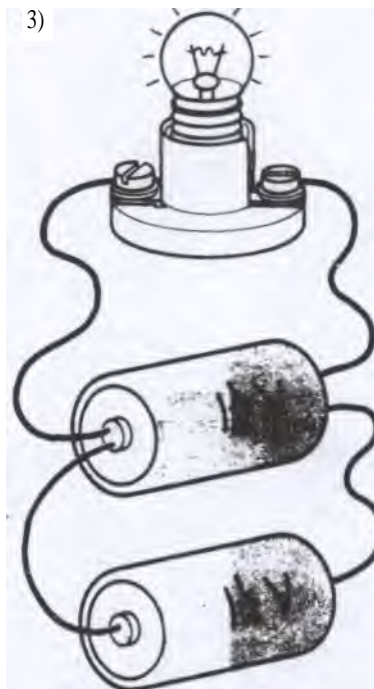


batteries connected in series

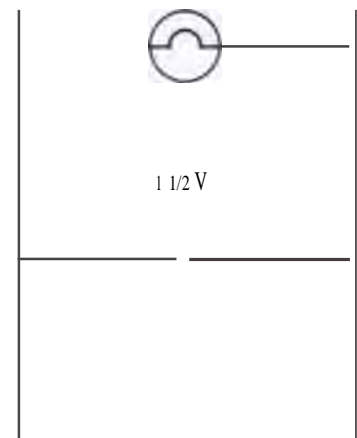


When batteries are connected in parallel however, their voltages do not 'add up'. The voltage provided by the two batteries in circuit 3 is the same as by the single battery in circuit 1.

Even so, there are reasons for connecting batteries in parallel: two batteries last longer than one, and can supply a higher current, should it be required.



batteries connected in parallel



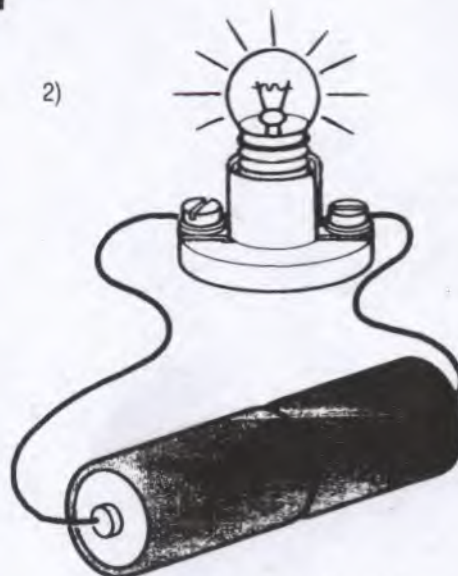
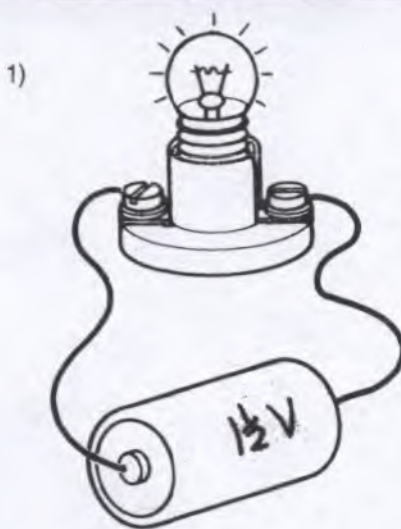
Basic electrics – revision

Voltage and current

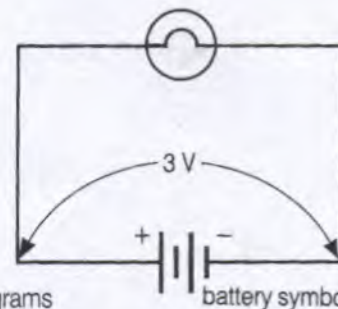
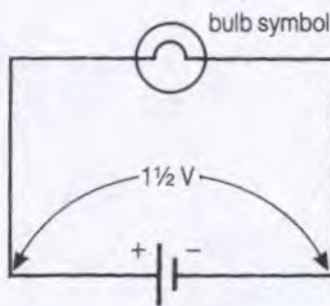
A battery is a source of electrical energy – it provides the ‘pressure’ which causes electricity to flow. We measure this electrical pressure in **volts, V**. The higher the **voltage**, the greater the pressure.

The flow of electricity is called **current** and is measured in **amps, A**

If a single battery makes a bulb glow dimly, two batteries connected in **series** as in circuit 2 will make it glow brighter. This happens because when batteries are connected in **series** their voltages ‘add up’. Two similar batteries connected in series produce twice the electrical pressure. The greater the electrical pressure (in a given circuit) the higher the current.



batteries connected in series

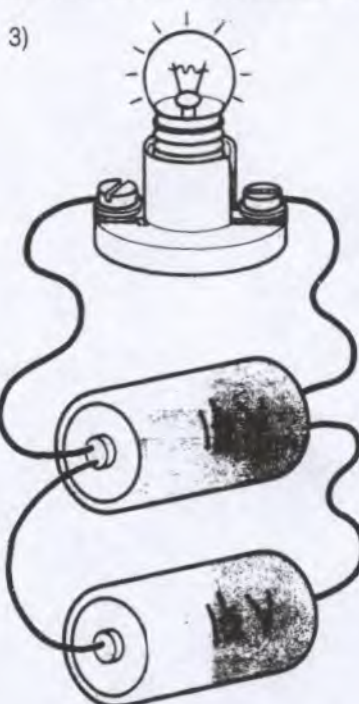


Circuit diagrams

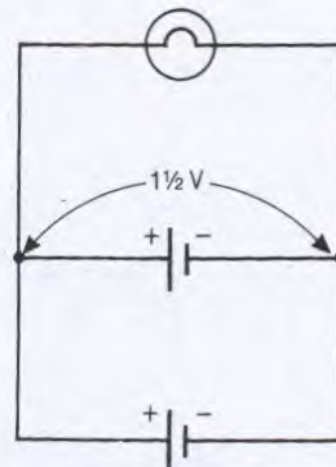
battery symbol

When batteries are connected in **parallel** however, their voltages do **not** ‘add up’. The voltage provided by the two batteries in circuit 3 is the same as by the single battery in circuit 1.

Even so, there are reasons for connecting batteries in parallel: two batteries last longer than one, and can supply a higher current, should it be required.



batteries connected in parallel



Circuit diagram