Using a circuit board

You cannot hold on to all the parts of a circuit all the time. But there is an easy way to keep everything in place.

The shape of the connectors in a circuit is not important. Professional electricians often arrange their connections in a tidy pattern so they can see what is going on.
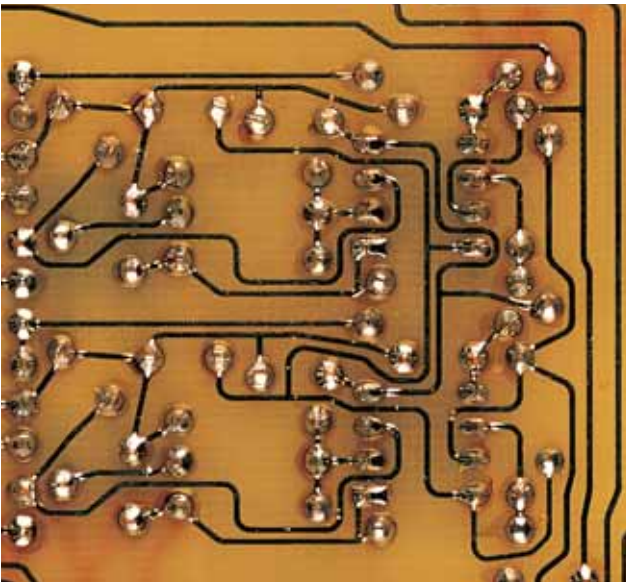
A circuit board

A **CIRCUIT BOARD** is a board, on which sheets of metal are pasted to make a connection. Then items like bulbs and batteries are fastened to the board. This is the way all electrical equipment is held in place (Picture 1).

Make a circuit on a board

To make a circuit on a board, you need a sheet of aluminium foil, scissors, a piece of cardboard, some glue or wallpaper paste, some tape, a bulb and a battery (Picture 2).

Cut out the centre of the foil sheet. In this way you make a wide, square wire. The electricity must now flow around the edge of the board.
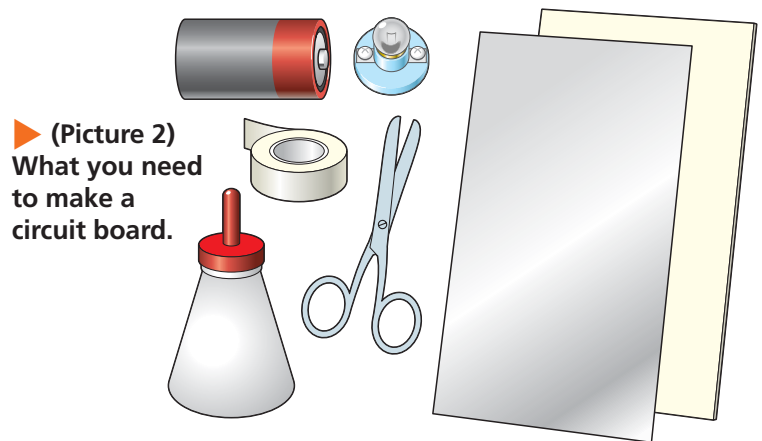
Stick the aluminium down with the glue or paste, and cut the foil where the battery and the bulb are to go. Lift up the strips of foil where you made the cuts.

Fasten the bulb and battery to the board with tape.

Now bring the aluminium foil tabs to the connectors of the bulb and the battery. You can hold them in place using tape.

The circuit is now complete and the bulb should light (Picture 3).

You can walk away and it will stay alight because it is all fixed in place.

▼ **(Picture 1) Part of a circuit board for a radio.**

▶ **(Picture 2) What you need to make a circuit board.**

Summary
• A circuit board keeps the connections nicely organised and reduces the chance of a mistake.

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Notice this…
In a circuit board, notice that the connections do not follow the shortest path. Instead, they are placed so it is clear how the circuit is connected. This is a good rule to follow, even if you use wires.

Stick the aluminium foil sheet to the cardboard using glue or wallpaper paste.

Tabs are fixed to the connectors using tape.

You will find copper wires used instead of aluminium strips on the following pages. However, they both do the same job of allowing electricity to flow around the circuit.