

# The Breadboard

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## Abstract

In this ebook, you will read about *breadboards* to build electronic circuits easily. This tool is very useful for students, experimenters and designers.

## 1 The Breadboard

It is important to test an electronic circuit. When a design is not final, you have to connect the circuit temporarily. A breadboard is very convenient to connect electronic components. If the circuit works on a breadboard, the design can be shifted to printed circuit boards and then be finalized.

See the photograph in figure 1. It is a full view of a standard breadboard. Let us see the details of its connection map.

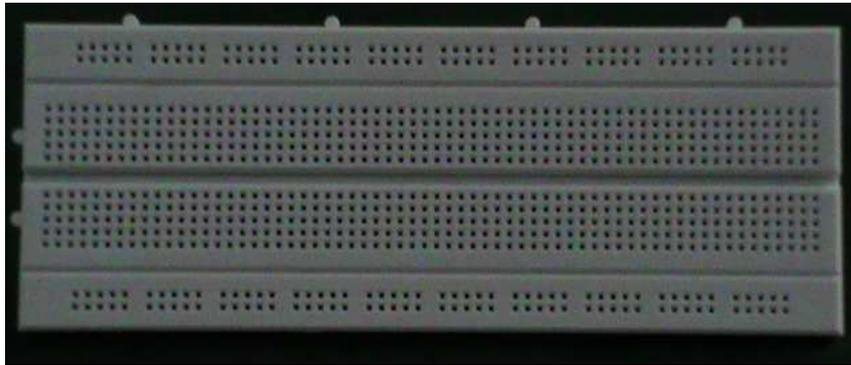


Figure 1: The Breadboard

## 2 The Connection Map

Techno e-School provides a breadboard as a part of the micro-junior-kit. You can use it to connect components. Keep the breadboard in front of you,

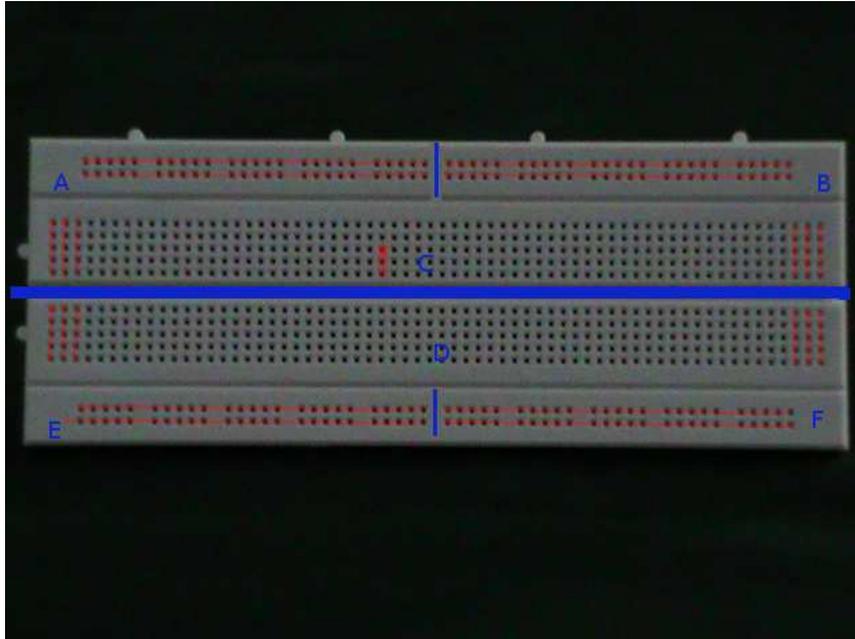


Figure 2: The Breadboard Map

exactly as shown in the photograph. Take care to see the white outgrowths on the top and on your left.

## 2.1 Verticle lines

See the photograph on page 2.

- You will see verticle lines at the central part (Section marked as C and D in blue) of the breadboard.
- Each verticle line has 5 holes in section C and D.
- All such lines contain 5 connected holes in the section C and D. But only the first and last three lines are highlighted.

## 2.2 Horizontal lines

- See sections A, B, E and F. They contain horizontal lines.
- The holes which are connected are highlighted by trasparent red lines.
- Note that the two lines in each section A, B, E and F are isolated.

- Note that each section A, B, C, D, E and F are isolated from each other.
- The horizontal lines in sections A, B, E and F are conveniently used for power supply and ground connections.

## 2.3 Coordinates

Every hole in the section C and D can be specified by a pair of coordinates. Observe the following things marked in section C and D.

- There are 64 verticle lines. (marked 1 to 64)
- There are 10 horizontal lines. (marked A to J)
- Using this system, you can very easily locate a hole. Holes (32,C), (32,D) and (32,E) are highlighted by transperent red colour in the section C of the breadboard.

## 3 Connections

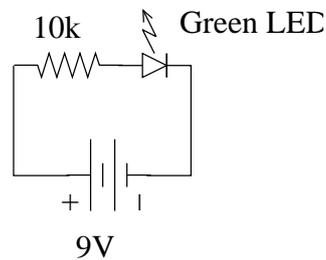


Figure 3: The LED circuit on breadboard

The circuit in figure 3 shows a circuit with an LED, a resistor and a battery. To connect different components you can use your breadboard as shown in the photograph in figure 4 on page 4.

This is quite a simple circuit. However, this way we can connect very complicated circuits on the breadboard for testing.

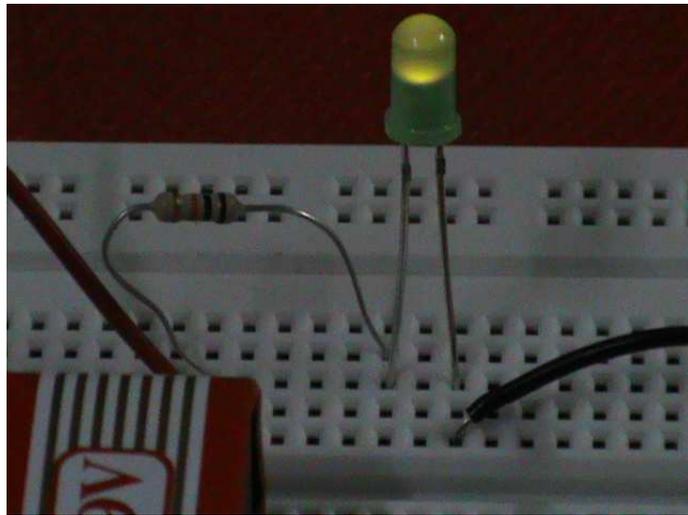


Figure 4: LED on Breadboard