

Chapter 06

ELECTRIC CURRENT AND IT'S EFFECTS

An electric circuit is a closed path of components connected with each other, through which electricity flows.

The diagram use see here is easy to represent, as components are simple. However, it is not easy to show various components such as fan or TV in a circuit as it is time-consuming. So we use symbols instead.

Children we use a lot of common symbols in daily life such as a stop symbol, no horn symbol and a NO U-TURN symbol. When you see these symbols, you will immediately understand what they represent.

You also must have seen these symbols. It would be difficult to draw actual pictures as indicators. Hence, it makes sense to use symbols.

Similarly, we use symbols to show components connected in a circuit.

Let us looks at some commonly used components and their symbolic representation.

Wires:

The wires used to connect various components in a circuit are represented by lines.

Switch:

There are two symbols for switch. One is ON –mode, another is OFF – mode.

Cell:

This is the symbol for a cell. Recall that a cell has a positive and a negative terminal.

The positive terminal is shown by a vertical long line. The negative terminal is shown by a parallel short thick line.

Bulb:

A bulb is an output device. This consists of thin tungsten wire known as FILAMENT.

BATTERY:

A battery is collection of several cells connected together. There is usually a thick wire or a metal wire strip connecting the positive terminal of one cell to the negative terminal of the next cell.

Let us now learn how to represent these symbols in a circuit diagram.

CIRCUIT DIAGRAMS:

A circuit diagram is a pictorial representation of an electrical circuit using standard symbols for components.

Diagram A shows the components connected in a circuit. Diagram B shows the circuit diagram of the same using symbols.

In this diagram, note that the switch is OFF.

If the switch is OFF, current does not flow through the circuit and the bulb does not glow. It is then said to be **an open circuit**

When the switch is ON, the current flows through the circuit and the bulb glows. It is then said to be a **complete circuit**.

When the bulb glows, you would have noticed it becomes warm. This is the effect of the electric current passing through the bulb.

We shall learn more about this in our next lesson.

In today's lesson, we learnt about symbols used to represent components of an electric circuit and the circuit diagrams.