



Background information for teachers

When a circuit is connected across the two terminals of a battery, the battery places an electric field across the components of the circuit. The free electrons start to drift towards the positive terminal of the battery under the influence of this field. These electrons constitute the current flow from the negative to positive terminal of the battery. However, the conventional current assumes that current flows from the positive terminal through the circuit to the negative terminal of the battery. This was the convention chosen during the discovery of electricity, which later, although proven wrong, is still the standard that most of the world follows.

Common misconceptions

- Misconception:** In an open circuit, the current will flow up to the point where the break in the circuit is, i.e. if a bulb is placed between the positive terminal of the battery and the gap, it will light up.

Actual fact: If there is a break in the circuit and there is no complete path for the electrons to flow, there will be no current at all in any part of the circuit.
- Misconception:** Electricity flows from positive to negative terminal of a battery.

Actual fact: Electricity is a flow of electrons from the negative to the positive terminal of the battery. When electricity was first discovered, scientists believed that it was a flow of charges from the positive to the negative terminal of the battery. This conventional current flow has been used by many till now despite later discovery of the mistake.

B. Symbols in an electric circuit

The different parts of a circuit are represented by different symbols.

The actual component	Symbol of the components
	<p>open </p> <p>closed </p>

To communicate what an electric circuit looks like, we use a circuit diagram to represent an actual electric circuit.

The actual component	Circuit diagram