

## Learning Check: Circuit Symbols and Resistance

1. Identify the components shown in the table below.

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |

2. Complete the following sentence;

The voltage of a battery is equal to the \_\_\_\_\_ per unit charge.

3. The energy that is stored in a battery is transferred to components in a circuit through the movement of electrons. Complete the following sentence:

The movement of electrons causes a \_\_\_\_\_ to flow around the circuit.

4. Complete the table below to link electrical quantities to their symbols and units.

| Quantity   | Quantity symbol | Unit name       | Unit symbol |
|------------|-----------------|-----------------|-------------|
|            | p.d.            |                 | V           |
| resistance |                 |                 | $\Omega$    |
| energy     | E               |                 |             |
|            |                 | amp (or ampere) | A           |
|            | Q               |                 | C           |

5. Fill-in the boxes below to complete the equation defining resistance in terms of two other electrical quantities. (Provide the correct **symbols** for both quantities to score this mark.)

$$R = \frac{\square}{\square}$$

6. When a lamp is inserted into an electric circuit it transfers some of the electrical energy. Complete the following sentences (both answers are required to score this question's mark).

The \_\_\_\_\_ across the lamp indicates the amount of energy transferred by the lamp.

Measurements of the \_\_\_\_\_ before and after the lamp will give exactly the same values.