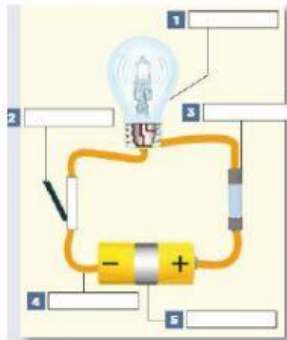


## Electricity 2 – Electric circuits

### 1) Drag the terms to the boxes:



fuse

load

power source

switch

wire

### 2) Match the words with their definitions:

1 load

2 switch

3 source

4 fuse

5 closed circuit

6 broken circuit

a ☐ a device which interrupts the circuit

b ☐ a circuit in which wires are disconnected

c ☐ a device which provides power

d ☐ a complete circuit with no breaks at all

e ☐ a device which consumes electric power

f ☐ a protective device

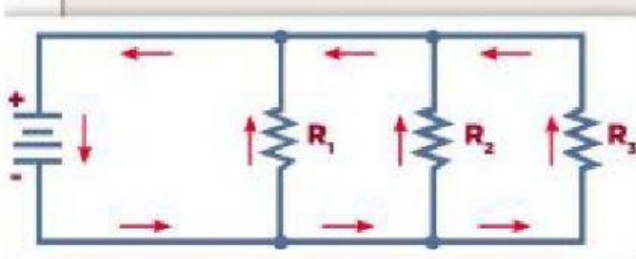
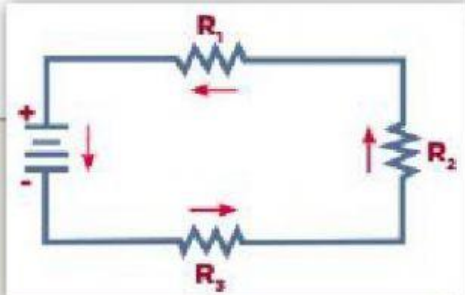
### 3) Complete the sentences with suitable words:

1. A simple c\_\_\_\_\_ consists of a power s\_\_\_\_\_, two conducting wires and a load .
2. A lamp in a c\_\_\_\_\_ circuit lights up.
3. Light b\_\_\_\_\_, electric motors and speakers are exmples of l\_\_\_\_\_.
4. A s\_\_\_\_\_ controls the current flow in an electrical device.
5. A short circuit occurs when there is a drop in the r\_\_\_\_\_ or a broken i\_\_\_\_\_.
6. We can use f\_\_\_\_\_ to prevent short circuits. They m\_\_\_\_\_ when too much current flows through them.

#### 4) Listen and complete the words into the text:

components   current   turn on   branch   amount  
positive   appliances   continue   burns out   path

The (1) components of a circuit can be wired in two different ways: series or parallel. If components are arranged one after another to form a single (2) path between the terminals and the components, the circuit is known as a **series circuit**. In this type of circuit, the (3) current flows from the negative terminal to the (4) positive terminal, passing through all the other components of the circuit. This means that the (5) amount of energy passing through all the components in the series is the same. The main disadvantage of a series circuit is that when a single component in the path (6) burns out, the entire circuit stops operating (e.g. Christmas tree lights).



A **parallel circuit** consists of several paths connecting the different components. Each separate path is called a (7) branch of the circuit. Current from the source divides and flows through the different **branches**. Unlike series circuits, if one of the components in the parallel circuit **burns out**, the other paths (8) continue to operate. Parallel circuits are commonly used to connect (9) appliances at home, so that each **socket** can function independently. For example, you don't have to (10) turn on the light in your room for the TV socket to work.

For example, you don't have to (10)

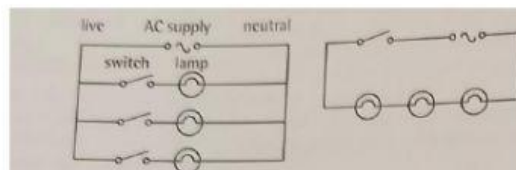
#### 5) Label these 4 circuits:

an integrated circuit (microchip)

lamps in parallel

lamps in series

a printed circuit board



**6) Complete the definitions with following terms:**

*components, conductor, independantly, integrated, neutral, plugs, parallel, power, printed, series, short, switches*

1. \_\_\_\_\_ circuits supply the sockets for the \_\_\_\_\_ on appliances.
2. A simple circuit where all the components are placed one after another along the same \_\_\_\_\_ is a \_\_\_\_\_ circuit.
3. A microchip is a very small, often complex \_\_\_\_\_ circuit.
4. When live and \_\_\_\_\_ conductors touch each other when the current is flowing, a \_\_\_\_\_ circuit occurs.
5. In a \_\_\_\_\_ circuit, different components are controlled \_\_\_\_\_, by separate \_\_\_\_\_.
6. \_\_\_\_\_ circuits can be populated with a large number of \_\_\_\_\_.

**7) Replace the words printed in italics with their synonyms. Choose from this list:**

*accommodated, adjusted, breakdowns, clients, excessive, loading up, melt, people, robbers, solidify*

A fuse can be added to an electric circuit to protect it from the effects of *undue* / \_\_\_\_\_ power. In case of overloading, the heat-sensitive alloy in the fuse will *liquefy* / \_\_\_\_\_ and open the circuit. A circuit breaker is fundamental to protect homes against *overloading* / \_\_\_\_\_ and short circuits. A circuit breaker can be *reset* / \_\_\_\_\_ after the overloading. An electrician should always provide his *customers* / \_\_\_\_\_ with a plan of the electric circuits in the house which will help in case of *faults* / \_\_\_\_\_.