



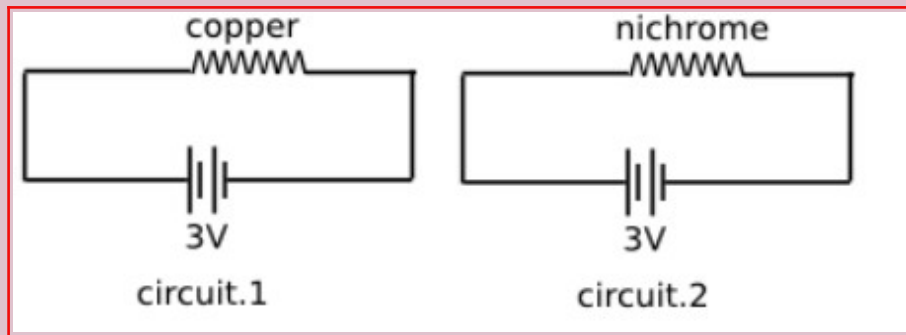
**1**

**Effects of Electric Current**

1. Complete the table given below.

Device	Conversion	Effect
Electric stove	.....	Heating effect
Electric bulb	.....	Lighting effect
.....	Electrical energy to mechanical energy.	.....
Battery (charging)	Electrical energy to chemical energy.	.....
Induction Cooker	.....	Heating effect
Electric Oven	.....	Heating effect

2. A copper wire and nichrome wire of same length and area of cross section are connected in two circuits as shown.

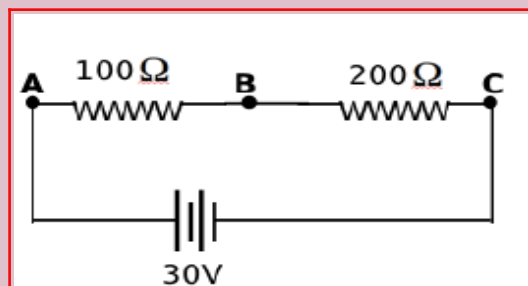


- a. Identify the circuit having more current.
  - b. Which wire get more heated?
3. An electric kettle of  $1500\ \Omega$  works on  $230\ \text{V}$  supply.
- a. Write energy change taking place in the electric kettle.
  - b. Calculate the electrical energy consumed when heater works for one hour.
4. Arrange following statements in the given table.
- \* When the number of resistors increases current also increases.
  - \* When number of resistors increases effective resistance decreases.
  - \* Same amount of current passes through all the resistors.
  - \* Potential difference is same for all the resistors.

- \* High resistor gets more heated.
- \* Applied voltage will be split among the resistors.
- \* Effective resistance is minimum.

Series Connection	Parallel Connection

5. If 0.1 A current flows through a resistor of resistance 500  $\Omega$  for three minute.
- a. Calculate the heat generated.
  - b. What will be the heat if the resistance is changed to 1000  $\Omega$  with out a change in current and time.
  - c. What will be the heat if the current is doubled with out a change in resistance and time.
6. Observe the circuit,



a. The resistors are connected in .....  
(series/parallel)

b. What is the effective resistance in the circuit?

c. High voltage is dropped across ..... resistor.  
(100Ω/200Ω)

d. More heat will be generated in ..... resistor.  
(100Ω/200Ω)

7. 10 resistors of 2Ω each are connected in parallel.

a. Calculate the effective resistance.

b. What will be the effective resistance if they were  
connected in series?

8. The resistors of 2 Ω, 3 Ω and 6 Ω are given to you,

a. What is the highest resistance that you can get using  
all of them?

b. What is the least resistance that you can get using all  
of them?

c. Can you make resistance 4.5 Ω using them.  
Draw the circuit diagram of the same.