

St. Andrews Scots Sr. Sec. School

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Class VIII (Session: 2026-2027)

Worksheet-4

Subject: Science

Chapter: Electricity-Magnetic And Heating Effects

Q.1. Define these terms

- a) Electrolyte
- b) Electrode
- c) Magnetic field.

Q.2. Fill in the blanks:

- a) When we increase the current flowing through the coil by using battery of two or more cells in place of one cell, the magnet becomes _____.
- b) Example of the use of heating effect of electric current in industry are high _____ furnaces.
- c) While making elements of heating appliances from wires of these materials, length of the wires is _____ by making coils of the wire.
- d) Batteries used in laptops, backup devices like inverters and in motor vehicles are bigger batteries that are _____.
- e) When we increase the current flowing through the coil by using battery of two or more cells in place of one cell, the heating effect of electric current _____.

Q.3. State whether the following statements are True or False:

- a) Any of the two plates in a Voltaic cell can be a positive terminal, irrespective of the metal used.
- b) The magnetic effect produced by a coil when the current through it remains unchanged when we add more batteries to the circuit.
- c) Dry cells use thick, moist paste electrolytes.
- d) The heating effect of electric current is caused due to resistance in the conductor to the flow of electric current.
- e) A doorbell is an example of the heating effect of electric current.

Q.4. Multiple Choice Questions:

- a) Which of the following appliances is NOT based on the heating effect of electric current?
- (i) Electric bell
 - (ii) Electric iron
 - (iii) Water heater
 - (iv) Electric stove
- b) Dry cell uses _____ electrolyte that is why it is considered as a convenient portable source of electricity.
- (i) coloured
 - (ii) solid
 - (iii) liquid
 - (iv) Thick, moist paste
- c) The strength of the heating effect of electric current depends on:
- (i) The nature of the metal used in the coil
 - (ii) Number of turns in the coil
 - (iii) The strength of the current flowing through the coil
 - (iv) All of these
- d) The strength of the electromagnet does NOT change with a change in
- (i) The nature and thickness of the conductor
 - (ii) Time duration for which the current is passed
 - (iii) Strength of the electric current
 - (iv) The number of turns in the coil
- e) In a dry cell, the negative terminal is the bottom of the zinc container. Which is the positive terminal of the cell?
- (i) Bottom of the carbon rod
 - (ii) Bottom of the zinc container
 - (iii) The paste of chemicals inside the cell
 - (iv) Metallic tip over the carbon rod.

Q.5. Answer the following questions:

- a) Name three variables on which the heating effect of electric current depends.
- b) Explain how the discovery of the Voltaic cell was made.
- c) How is the dry cell considered convenient over the Voltaic cell?
- d) What is the magnetic effect of an electric current? Explain with examples.
- e) What is the industrial use of an electromagnet?