# St. Andrews Scots 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?