LESSON – 17

Electric current and its effects

I. Word Focus

(write all the hard or new words on your own)

II. Answer the following

1.Explain the function of the electrical fuse in a circuit.

Ans: Fuse is made up of material having low melting point. The main function of a fuse is to break the circuit if there is overflow of current and prevent fire. The fuse protects electrical wires and appliances from damage from excess current.

2.What is MCB? What is its Function?

Ans: MCB is the abbreviation for Miniature Circuit Breaker. It is a tool that is used in place of a fuse. MBC automatically breaks the circuit if it exceeds the safe limit of current passing through it to prevent fire and other damage. MCB can be turned on manually.

3.Give an example to show that we use the heating effect of electric current in our daily lives.

Ans: The use of heaters and geysers is an example of the heating impact of electric current. These instruments contain a thick coil of wire called heating elements. When electricity is passed through them these wires start glowing red and produce heat. Hence, heat is generated with the help of electric current.

4.Why does an electric bulb get fused?

Ans: A filament is an extremely tiny wire found within an electric bulb. When electricity is passed through a filament, it heats up and glows, emitting light. The filament, on the other hand, is a thin wire. When too much electric current is passed through the filament, or when it is passed through the filament repeatedly, it becomes too hot and breaks. This results in fusing of the bulb.

5.What is an electromagnet?

Ans: An electromagnet is a temporary magnet that is formed because of the magnetic effect of electric current. When electric current passes through a wire it behaves like a magnet. The strength of an electromagnet depends on the amount of current passing through it. Electromagnets show all the property of a magnet such as:

a. Attractive Properties

b. Repulsive Properties

c. They also point in a north-south direction when suspended freely.

Electromagnets are used in large cranes in junkyards to separate iron or any other magnetic object from the garbage.

6.A compass needle kept near a wire gets deflected from its north-south position when the current is switched on through a wire. Explain.

Ans: When the current is passing through a wire around, the magnetic field deflects the compass needle kept nearby.

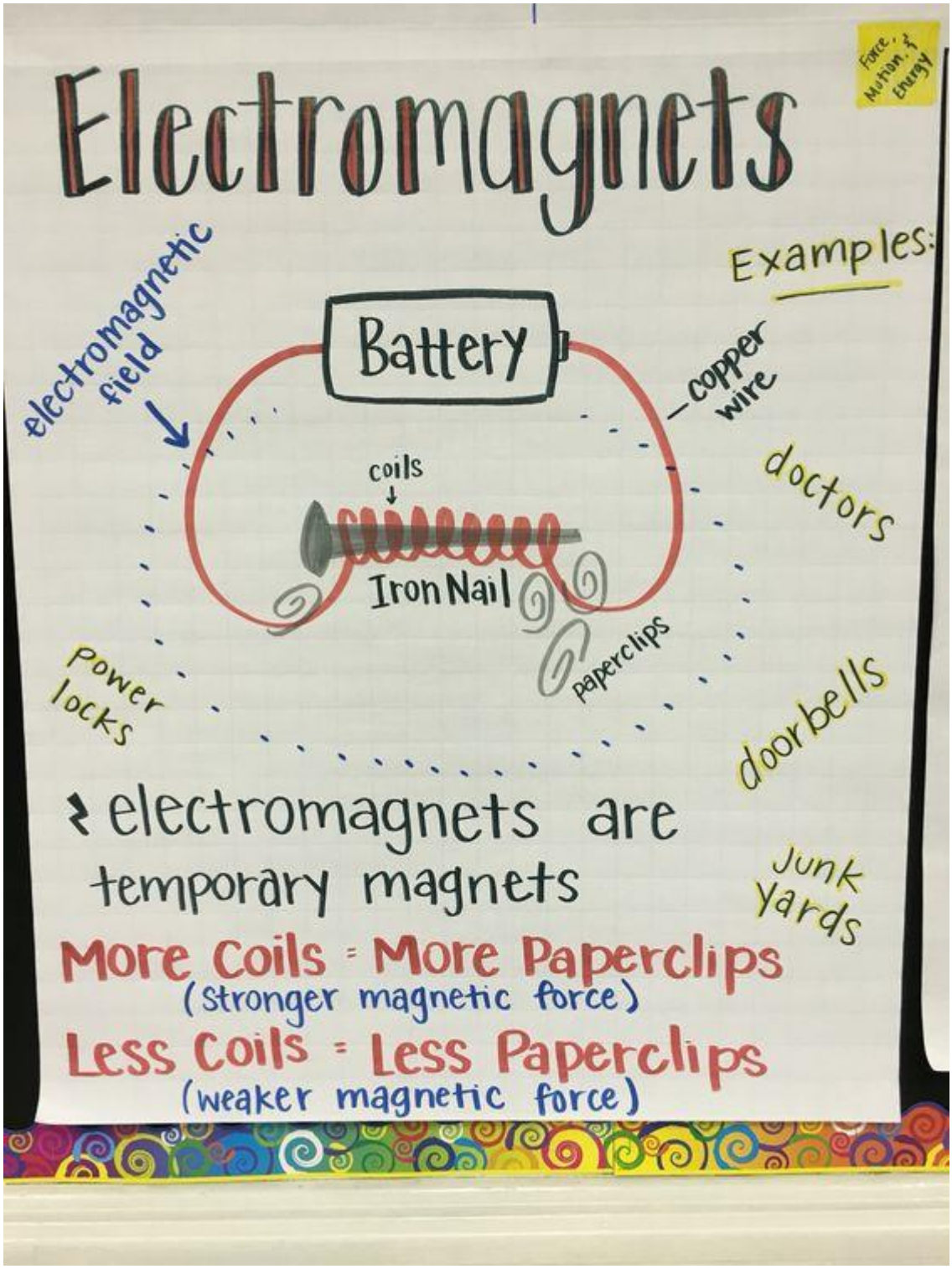
7.Can an electromagnet be used for separating plastic bags from a garbage heap? Explain.

Ans: The property of attraction does not apply for plastics and therefore an electromagnet cannot separate them.

8.Some repairs are carried out in your house by an electrician. A fuse is to be replaced by a piece of wire. Would you agree? Give reasons for your response.

Ans: As a wire has a shallow melting point, it is not wise to replace the fuse by a piece of wire. The melting point will be high for metal, and the circuit will be intact if there is overload or overheat.

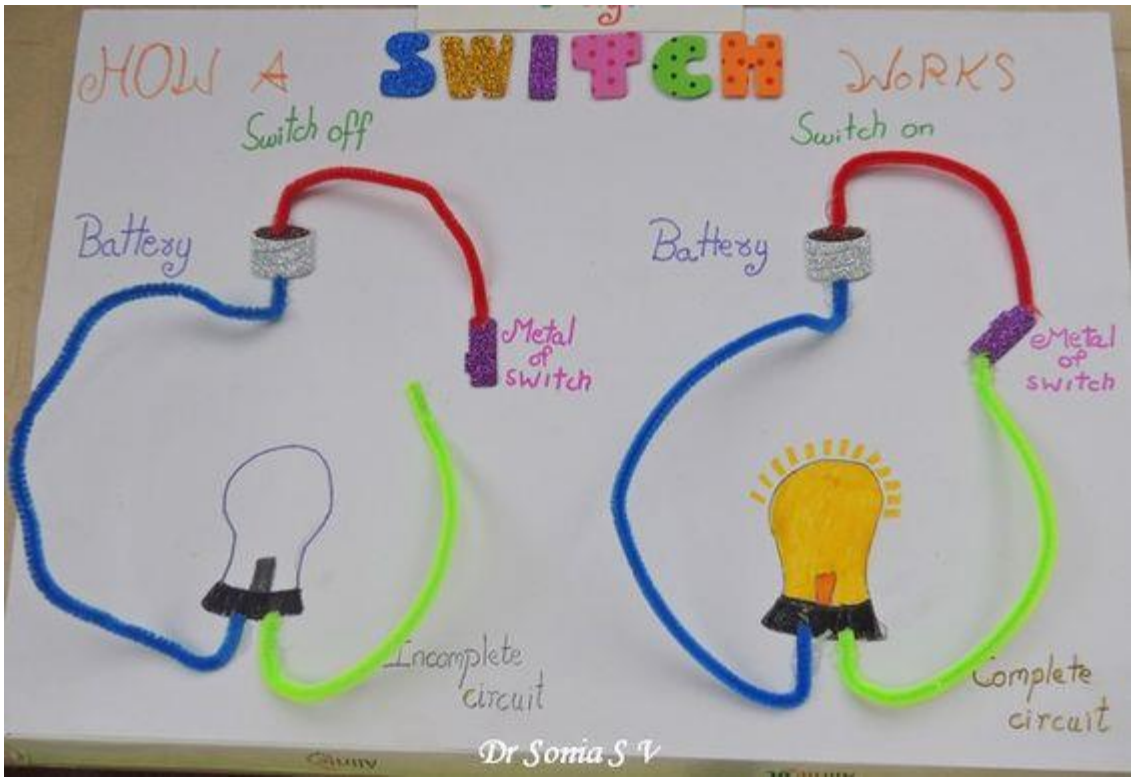
III. Interactive Activity



Make a interactive foldable to show the components and its symbols of an electric circuit

Make a closed and open circuits using color threads or thin wires

(Reference image)



Make a circuit using copper tapes