

ACTIVITY NO. -14- MAGNETISM RULES!!

Subject	Science
Class	X
Chapter/Unit	Chapter 13-Magnetic effects of electric current
Topic	Current carrying conductor behaves as a magnet
Time	20 Minutes
Nature of Activity	Pair work

What will I learn (Learning Outcome)?

To demonstrate that a current carrying conductor behaves as a magnet

Skills: Analyzing and Creating

What I have to do?

To demonstrate the magnetic effects of electric current.

What do I require?

Battery, connecting wires, magnetic compass, a straight thick copper wire.

What do I need to know?

We know that every magnet has a magnetic field around it which is represented by imaginary lines called as magnetic lines of forces. A magnet can apply the force of attraction/repulsion on another magnet or magnetic material.

➤ Teacher's Activity

Teacher will

1. make pairs of the students and will explain the steps of the activity.
2. instruct the students on how to make the circuit for the activity with necessary precautions - only when the circuit is complete, then it must be switched 'ON' and the current should not be flowing in the circuit for a long time.
3. ensure that each participant of the pair performs the activity on his/her own.

How will I proceed?

➤ Students activity

1. Take a straight thick copper wire and place it between the points X and Y in an electric circuit having a battery and a key.
2. Place a small compass near to this copper wire.
3. Observe the position of its needle.
4. Pass the current through the circuit by inserting the key into the plug.
5. Observe the change in the position of the compass needle.

What have I observed?

S. No.	Status of the circuit (ON/OFF)	Status of Magnetic Compass (Deflects/ does not Deflect)

What have I learnt?

From the activity we can conclude that as current passes through a conductor it can _____ the compass needle kept in the vicinity and hence we can say that, it behaves as a _____.

What am I curious to learn?

1. If I repeat the above experiment by reversing the direction of current then what change(s) , what will happen?
2. If some other magnetic material is used to find the pattern of magnetic field lines due to the current carrying conductor, what can be the observations?.

Let me evaluate myself

1. What is a magnet? Categorize it on the basis of shape.

2. How many poles does a magnet have? Name them.

3. A magnetic compass is also a magnet. What type of magnet is it?

4. Explain why a compass needle deflects when brought closer to a current carrying conductor?

5. Can a freely suspended bar magnet be used to find the magnetic poles of the earth? Explain.
