

## AAC 9 Project:

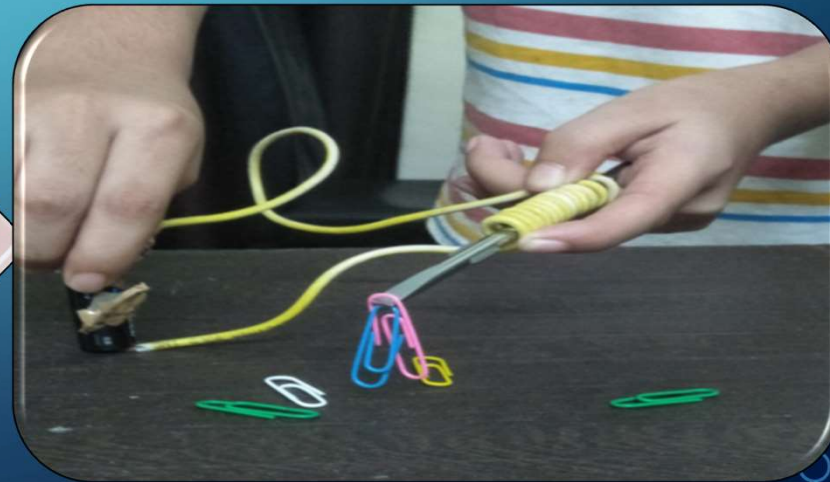
Make an electromagnet using dry cells, iron nail and insulated wire. During the project, try to find out the answers to the following questions:

- ❖ What do you observe when number of turns in the wire is increased or decreased?
- ❖ Do you observe any change in the magnetism if number of cells is increased or decreased in the circuit?

- The picture alongside shows an electromagnet.
- Materials used:
  - one AA battery of 1.5V,
  - a screw driver,
  - insulated copper wire
  - some paper clips.
- **Note: The circuit is open.**



- The moment, the circuit is complete, the screw driver develops magnetic properties and attracts the paper clips.



- This picture shows that even after the circuit is broken, the electromagnet retains its magnetic properties.

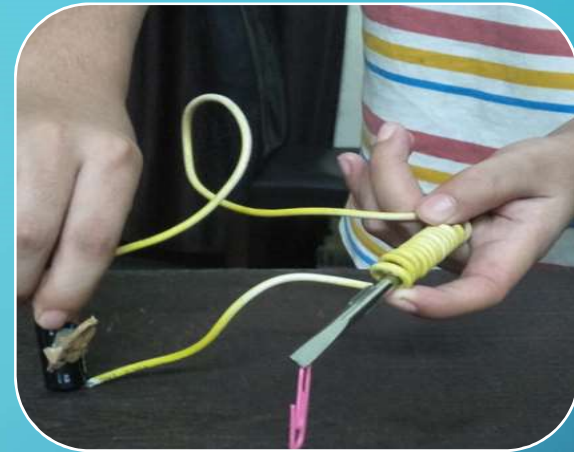


### ❖ Observations:-

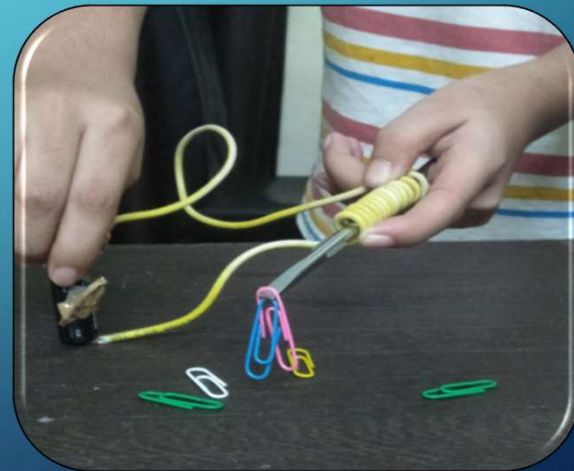
1. As shown in Picture 1, the electromagnet has a lesser number of turns and therefore attracts fewer clips. As the number of turns of the coil is increased, as shown in picture 2, the electromagnet becomes stronger and attracts more clips.
2. As we use more cells, the electromagnet attracts more clips.

### ❖ Inference:-

1. The magnetic property of the electromagnet increases with the number of turns, i.e. the increase in current.
2. The magnetic property of the electromagnet increases with the increase in current and decreases with the decrease in current.



**PICTURE 1**



**PICTURE 2**