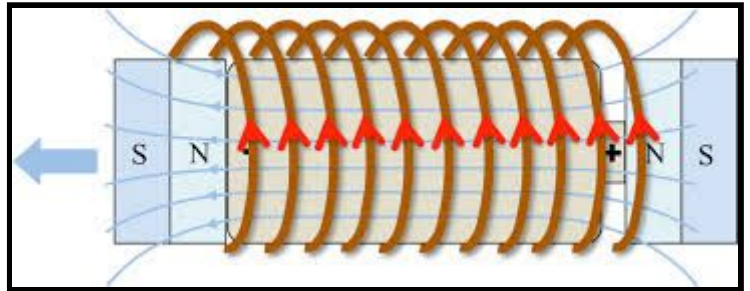


## Electromagnetic Train

## Worksheet

### How does it work?

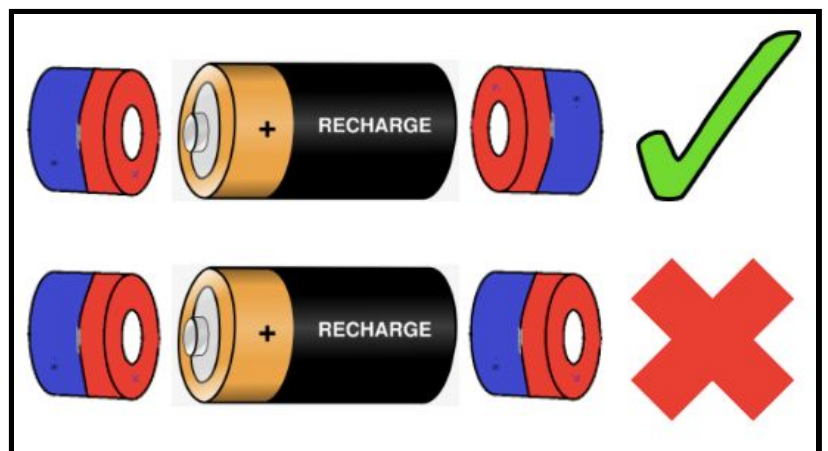
- Magnets have a north pole and a south pole
  - Opposite poles attract each other



- When a battery is placed in the wire, a current will flow through
  - This current will cause a magnetic field around the wire
  - This is called an electromagnet
- This magnetic field can repel the magnets on the battery
  - This repulsion pushes the battery through the coil

### Instruction

- Place magnets on a battery
  - Place same pole on either side of the the battery
- Place the battery in one end of the copper wire coil
- Watch in wonder as the train is pushed through!



### Can you make it work?

If you try this yourself you will need an adult to supervise you.

The magnets you need to use are very strong, can trap fingers, can chip into sharp pieces and could be swallowed accidentally by small children.

You may need to adjust the coils, try different wire, batteries or magnets to make it work!

### Extra Video Link:

Youtube - Magnetism - The Dr. Binocs show - <https://youtu.be/yXCeuSiTOug>

Youtube - Electromagnetic induction - Smart Learning for All - <https://youtu.be/yA8gZM3fghc>