ELECTROMAGNET

Overview and objective:

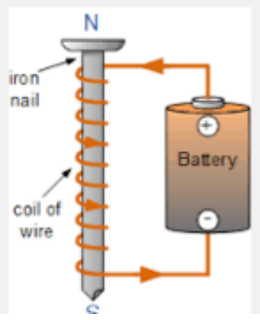
Students will learn how to make a **electromagnet**

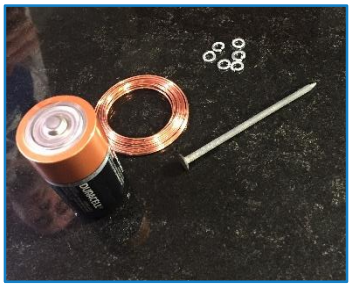
An **electromagnet** is a type of magnet in which the magnetic field is produced by an electric current. The magnetic field disappears when the current is turned off. **Electromagnets** usually consist of a large number of closely spaced turns of wire that create the magnetic field.

Presented by BASF We create chemistry

WHAT YOU WILL NEED:

- Copper wire
- One battery (we used D)
- An iron nail
- Some paperclips or small washers
- Gloves
- Safety goggles





Procedure:

1. Tightly wrap your copper wire around the nail, spiraling it down so that it looks like this, with a length of wire extending from both the top and bottom of the nail.
2. Curl the two extending pieces of wire to make a strong contact with the battery.
3. Carefully line your wire up with the positive and negative ends of the battery. ** you may want gloves for this! The battery will get warm!
4. Holding the battery and wires in place, bring your nail to the paper clips. You'll see you now have a magnet!

The electricity flowing from the battery through the copper wire is passed into the iron nail, making it magnetic. Remove the battery and you'll find the nail quickly loses its magnetism.

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