

## Electromagnet Lab

Problem: Can the strength of an electromagnet be changed by changing the voltage of the power source? Can the strength of an electromagnet be changed by changing the amount of wire wrapped around its core?

Research: *Answer the following True or False questions about magnets and electromagnets.*

1. Heating or hitting a permanent magnet can ruin it.
2. Iron is a good metal to use to make an electromagnet.
3. The north pole of one magnet will attract the north pole of another magnet.
4. Magnets and electromagnets are used in many devices.

Data:

Battery voltage: 1.5V, 3.0V, 4.5V, 6.0V – 25 turn electromagnet

Battery voltage: 1.5V, 3.0V, 4.5V, 6.0V – 50 turn electromagnet

Questions to include in your conclusion:

1. What happened to the strength of the electromagnet when more turns of wire were used?
2. What happened to the strength of the electromagnet when more volts were used?
3. Where can you find electromagnets in your home?
4. How can you make a permanent magnet lose its magnetism?