CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
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Project Number
J1712

Project Title
Does the Strength of a Magnet Vary with Temperature?

Abstract

Objectives/Goals
In what ways does the temperature affect a magnet?
How could you measure the strength of a magnet?

Methods/Materials
One large ceramic magnet(size should be 4 ½)
Plastic tongs
Thick heat-resistant glove or oven mitts (not potholders)
Digital scale with 0.1 g increments
Flat surface or plate at least 2 inches wider than the diameter of your magnet
Small bowl or container
Thermometer
Freezer
Ice cubes (about 3 trays worth)
Large plastic bowl (your magnet needs to fit in the bowl)
Water
Stove or hot plate for heating water
Pot

Results
Based on my trials, I observed that the weight of the paperclips the magnet picked up decreased with increasing temperature and the weight of the paperclips the magnet picked up increased with decreasing temperature.
The weight of the paperclip represents the strength of the magnet. I interpreted that the strength of a magnet increases as the temperature decreases and the strength of a magnet decreases as the temperature increases.

Conclusions/Discussion
My conclusion is that when the temperature is lower the strength of the magnet is greater and when the temperature is higher the strength of a magnet is less. This happens because when the atoms of something is cold it make the atoms slower and when the atoms of something warmer the atoms move a lot faster.

Summary Statement
My project is about how the temperature can effect the strength of a magnet.

Help Received
My parents supervised me while I was handling a magnet at hot and cold temperatures.