



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Ish Khandelwal	Project Number 36481
Project Title Does the Strength of a Magnet Vary with Temperature?	
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 1/2) 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.	