



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Francesca O. Holland	Project Number J1411
Project Title Plants and Magnets	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I was testing to see if marigolds grew faster with north side up magnets (repels the north of a compass), south side up magnets, or no magnets in their cups. My hypothesis was that the more intense magnetic field would affect their growth.</p> <p>Methods/Materials I planted three sets of marigolds in all, six north-up, six south-up, and six control in each set. Each plant was in a separate cup, and all were kept by the same window. Each plant was planted 1/2 inch deep and given the same amount of water as the rest. The plants were measured and rotated daily. A stack of three magnets was placed in the bottom of each test cup. All were planted in plastic cups.</p> <p>Results The plants grown with the north-up magnets seemed to germinate faster, but the rate of growth seemed to be the same for all plants. The south-up seemed to germinate later than the other plants.</p> <p>Conclusions/Discussion The presence of a magnetic field stronger than the Earth seemed to have an effect on the germination period of plants, but a much larger scale project would be needed to verify the results.</p>	
Summary Statement Testing the growth of plants grown with a magnetic field locally stronger than Earth's.	
Help Received Father helped draw the graphs, mother helped decorate the board.	