



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Emily J. Mannarelli	<b>Project Number</b>  31698
<b>Project Title</b> Pill Bugs vs. Magnetic Fields	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to determine how magnetic fields affect the behavior of pill bugs. <b>Methods/Materials</b> 6 shoe boxes were filled with 1/2 inch of soil, and separated into 3 equal sections using white string. At one end of 5 of the 6 shoe boxes, a bar magnet is attached to one end. No magnet is used for the sixth box, which is the "Control" box. 21 pill bugs are then placed in the middle section of each box. Their location and behavior is recorded immediately. Observations are conducted every day for 4 days, recording the locations and behavior of the pill bugs in relation to the bar magnet. <b>Results</b> After the 4 day period, 4 of the 5 boxes resulted with all 21 pill bugs being in the front section closest to the magnet. Only the 5th box deviated from these results, along with the control box. <b>Conclusions/Discussion</b> After 4 days, the collected data inferred that my pill bugs were attracted to the magnet, as 4 of the 5 boxes with magnets ended the 4 day period with all 21 pill bugs locating to the front section closest to the magnet.	
<b>Summary Statement</b> How magnetic fields affect the behavior of pill bugs.	
<b>Help Received</b> My mom helped me set up the shoe boxes. My dad helped me organize the data into graphs.	