



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Nathan R. Fennacy	<b>Project Number</b>  31116
<b>Project Title</b> The Ants Go Marching Along. Can a Natural Substance Be Used to Repel Ants?	
<b>Objectives/Goals</b> The objective of this experiment is to determine if everyday natural substances -- in particular cinnamon, talc powder or vinegar -- can create a barrier that would repel ants and act as a deterrent to keep those pesky ants away from a food source that otherwise they would pursue. <b>Abstract</b> <b>Methods/Materials</b> In a clear box, a small bowl of honey was placed as bait. The bowl sat on a square plate slightly bigger than the circumference of the bowl. The plate was filled with one of the three natural substances being tested. Ants were introduced into the enclosed environment on the opposite end of the bowl. The ants were observed and every 15 minute, for one hour total, the amount of ants that had crossed the barrier and were in the honey was counted. The substances tested were cinnamon, talc powder and vinegar. There were four trials conducted with each substance. <b>Results</b> Cinnamon worked best to keep ants from going to the honey. Only one ant in one of the four trials crossed the cinnamon barrier and went to the honey; in the other three trials, there were no ants that crossed over the cinnamon. Talc worked second best, with at most, only two ants having crossed the barrier of talc powder. Vinegar did not work as a barrier to repel ants. In one trial, 12 ants were in the honey and had easily marched over the vinegar barrier. The results did determine that there are natural substances that can be used to repel ants. <b>Conclusions/Discussion</b> This project concludes that a natural substance can be used to keep ants out of unwanted places. I had hypothesized this would be the case, but I thought vinegar would be the repellent to do it. I learned vinegar did not work, but cinnamon and talc did. This is very important. Natural repellents would be useful because they aren't harmful to the ecosystem and the environment. Most people turn to poisons to get rid of ants or keep them out of unwanted spaces. There needs to be something environmentally friendly that people could use that would not harm the environment. Since cinnamon worked best, the next step would be to study ways it could be distributed as a repellent (perhaps mixed with wood chips or as an ingredient in a spray) where it is easy to apply and cost efficient.	
<b>Summary Statement</b> My project is about finding a way to create a barrier made out of a natural, eco-friendly substance that ants will find unappealing and will not cross.	
<b>Help Received</b> Dad helped gather the live ants and get them into the box. Neighbor helped find rubber ants to glue to the display board. Brother helped with the graphics program to make the graph. Mother helped edit my writing. My advisor helped me stay on track and was encouraging.	