



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Renana Adar Schutzer</b>	<b>Project Number</b> <b>J1919</b>
<b>Project Title</b> <b>Do Ants Really Need Their Antennae?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My goal was to see which kind of ant would finish the maze in the shortest amount of time: an intact ant, an ant missing its right antenna, or an ant missing its left antenna? What kind of behavior would each type of ant present?</p> <p><b>Methods/Materials</b> Draw a 12-inch long, tube-shaped maze on the board. Stand the board up against the board in a vertical position. Put the ants through the maze one at a time. Each TYPE of ant should have 20 trails to go on the maze. Rinse and dry the board after each trial. Observe and time each ant as it goes through the maze. Wild intact ants, ants missing their right antenna, ant missing their left antenna, a board, chalk, paper towel, tap water, timer, cleaned medicine vial (with lid).</p> <p><b>Results</b> On average, the intact ants got to the end of the maze the fastest. The ants missing their right antenna walked through the maze second-fastest. The only behavior these ants showed that was different from the intact ants was: walking only on the left side of the maze. The ants missing their left antenna walked through the maze the slowest. These ants walked on both sides of the maze, but they seemed "confused."</p> <p><b>Conclusions/Discussion</b> An ant that has both of its antennas will get to its destination usually faster than an ant that is missing its right antenna or left antenna. In conclusion, I found that ants that are missing their right antenna can still get to their destination fast, if not sometimes faster than ants that have still have both their antennae. The only thing that was wrong with the ants that were missing their right antenna (that I could tell, anyway) was that they couldn't "see" things that were on the right side of their heads. I found that ants that are missing their left antenna can "see" on both sides of their heads, but their traveling speed is affected greatly. Though this doesn't have to do with my experiment results, I'll mention that I found that ants will only cooperate in an experiment when the temperature is warm. As I said before in my hypothesis: "I think that if I find an ant that is missing one or more of its antennae, and I put it on the maze, then it will have a harder time getting across the maze than an intact ant would." My data supports my hypothesis. My conclusion supports the literature in my research.</p>	
<b>Summary Statement</b> What is the behavior and speed differences between intact ants, ant missing a right antenna, and ants missing a left antenna?	
<b>Help Received</b> Mrs. Paluso told me about how ants can't get past chalk ; My father supported me with my project and helped brainstorm for a project idea.	