



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

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Project Title Can Snails Be Used as an Indicator for Toxins in Your Garden?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our purpose for this project is to see if snails can detect changes in the environment around them. Based on research done, we believe that snails will turn away from the given alkaloids, due to the sensitiveness of their skin.</p> <p>Methods/Materials After we did research, we found several alkaloids that are foods, and are believed to have a high number of amino acids. The foods we used as the alkaloids are: coffee beans (grounded), cocoa powder, corn starch, salt, eucalyptus oil, tea, coke, and mountain dew. For our testing we simply placed the snails inside a tray with the foods and observed if the snails went near the food or stayed away.</p> <p>Results After testing 100 snails, we averaged out what food most snails stayed away from, and which on they preferred. The food they least liked was the salt, and the food they most liked was cocoa powder.</p> <p>Conclusions/Discussion Our hypothesis was not supported by the data that we received. The cocoa powder was the most liked, although we had thought that it was going to be the least liked. We had some controlled variables such as the lettuce fed to the snails. The dependent variable was the snails' reaction to the different foods, and the independent variable was the different foods being tested on the snails. The results could have varied because of the different areas the snails were collected from, and the condition of the trays. In the future, we will try collecting the snails from the same area, or getting more detailed alkaloids.</p>	
Summary Statement Our project is about testing snails and seeing if they can detect the different toxins in our garden.	
Help Received Schmahl Science Workshop provided the supplies for the project.	