



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Jake D. Snyder	Project Number J0521
Project Title Toxic Treats: The Pollution Within	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment was to determine if a notable amount of lead could be detected in candy samples and wrappers. The reason I am seeking the presence of lead dust on wrappers or lead compounds in the candies is an attempt to see how high levels of lead are in candies purchased in local stores. I wanted to compare the acceptable lead level limits and the testing results to determine if there were correlations from certain ingredients to lead levels.</p> <p>Methods/Materials This was done by using the patented Lead Inspector lead test kit to first swab the candy wrapper and recording the results onto a graph. The next step was to place each candy into a muffin tin and soak them individually for four hours with white vinegar to allow for the lead to leach into the mixture, making it available to test. The process of dipping and testing was repeated 14 hours later to allow for further leaching to occur.</p> <p>Results My hypothesis was confirmed by the results of my experiment. Twenty-eight of the forty-one candies tested positive for lead poisoning. The lead levels varied from one sample to the next, with some testing as low as two parts-per million, and some testing as high as fifty parts-per-million. I also discovered that candies created with ingredients such as chili or tamarind sauce repeatedly tested with a positive lead presence. From the twenty-eight candies that tested positive for lead, fourteen had chili as a chief ingredient.</p> <p>Conclusions/Discussion My science fair experiment has proven that lead poisoning in the candy and wrappers I tested are fairly common, and these candies should be avoided. Twenty-eight candies tested positive for some level of lead, and out of the twenty-eight lead-positive candies, fourteen, or 68% of the twenty-eight of the candies were chili based. All of the candies that tested positive exceeded the FDA's toxicity minimum of 0.5 lead parts per million. Information from this project indicates that consumers of these candies are ingesting toxic levels that could lead to physical or cognitive debilitation.</p>	
Summary Statement Multiple lead tests of store-bought candies were conducted to determine the presence of lead levels on both the packaging and in the candy.	
Help Received Mother purchased lead testing kit.	