



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Roman Lara, IV	Project Number J1117
Project Title Trash Wars: Are Landfills Effective?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment was to determine whether or not landfills are an effective way of disposing of biodegradable trash. I predicted that biodegradable material would decay faster if it was exposed to oxygen and sunlight than if it was deprived of those elements.</p> <p>Methods/Materials I took 2 used banana peels and placed each one on its own paper plate; one of them was left unprotected, totally exposed to the outside elements, i.e.: "Mother Nature" and the other was left sealed in a black trash bag, to simulate a landfill. I tested my hypothesis 3 times, each experiment in individually numbered boxes. The boxes were stored outside for 3 weeks.</p> <p>Results After 3 weeks, the unprotected banana peels that were exposed to oxygen and sunlight decayed at a much faster rate than the banana peels that were left sealed in black trash bags, which were basically preserved.</p> <p>Conclusions/Discussion Based on the results of these experiments, my hypothesis was supported and I learned that oxygen and sunlight decays biodegradable material faster than the more common method of disposal: burying it in a landfill. Further experiments might eliminate the effects of rain in the decaying process and could also include testing different methods of disposal such as incineration to reduce the amount of waste produced. Further investigation could explore the benefits of composting biodegradable materials to return its nutrients back into the soil.</p>	
Summary Statement To determine whether or not landfills are an effective way of disposing of biodegradable trash.	
Help Received Mother helped assemble/decorate display board and did some typing.	