



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Kevin C. Kelley	Project Number J1114
Project Title Sun Chip Bags: Compostable?	
Objectives/Goals Certain Sun Chip bags have been advertised as being 100% compostable. I wondered if this was really true. I decided to put a compostable Sun Chip bag into our garden composter and check on its condition over time. I chose to compost the bag over fourteen weeks, the same amount of time that Frito Lay, the maker of Sun Chips, had run its experiment on its compostable bags.	
Abstract In addition to the Sun Chip compostable bag, I also placed into the composter a regular (non-compostable) Sun Chip bag, a brown paper bag, a regular plastic bag, a bio-degradable green plastic bag, and a bio-degradable plastic cup.	
Methods/Materials I gathered up grass clippings, food and vegetable scraps from our kitchen, leaves, weeds, small twigs, soil and commercial compost. I placed these items into the composter and added water to start the composting process. I rotated the composter once a week to mix the ingredients well and to make sure the organic material came into contact with the various bags and containers.	
Results The brown paper bag composted after only three weeks and could not be found in the composter. The bio-degradable green plastic bag and the bio-degradable plastic cup began to compost after three weeks and ten weeks respectively. After fourteen weeks, the compostable Sun Chip bag, the regular Sun Chip bag and the regular plastic bag had not composted at all.	
Conclusions/Discussion Heat may play a factor in the composting process. Frito Lay claims that its compost pile maintained an internal temperature of 120 degrees Fahrenheit. I did not measure the temperature in our garden composter. I did notice that the compost pile seemed to give off less heat as the weather grew colder. If I were to run the experiment again, I would make a larger compost pile to help maintain a higher internal temperature or run the experiment during warmer months of the year.	
Summary Statement I wanted to determine what modern packaging materials would best compost in a land fill.	
Help Received My dad helped me paste the photographs on the board.	