



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title Checking Consumer Labeling for Peanuts by Using Calorimetry	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To run an experiment in order to determine the caloric content and stored energy of a variety of peanuts by using a calorimeter and an equation, so that we can compare our outcomes with the published nutritional facts on the peanut containers.</p> <p>Methods/Materials We determined that the example of a calorimeter given to us was too simple. In our case, the original calorimeter lost too much heat, so we improved it by insulating it in more areas. We burned different consumer peanuts: cocktail, dry roasted, and shell roasted peanuts; used to prove our hypothesis.</p> <p>Results After running our experiment many times and using an equation to find our small calories then multiplying by 1000, we found that the cocktail peanut had the most Calories with an average of 1.782, next, the dry roasted, 1.403, and last the shell roasted averaging around 1.388 Calories.</p> <p>To determine the heat loss from our homemade calorimeter, we derived a constant using our big Calories and the ingredients on the cans/bottles of the consumer peanuts. The shell roasted gave an average constant of 8, the dry roasted 7, and the cocktail 6. According to our data, the more calories of the peanuts tested gave the lowest specific heat loss.</p> <p>Conclusions/Discussion Our results showed that the heat loss was more than we expected after insulating our calorimeter. Our hypothesis was partially correct. Assuming that the labeled ingredients on the consumer peanuts are correct, we found a slight difference in the derived constant of heat loss depending on the size or type of peanut.</p>	
Summary Statement Our project is to find the energy and caloric content of a peanut by using a calorimeter and an equation.	
Help Received Advisor supervised the experimentation and helped paste things on the board; the physics lab manager at the City College of San Francisco gave us the idea	