



CALIFORNIA STATE SCIENCE FAIR 2003 PROJECT SUMMARY

Name(s) Victoria H. Sims	Project Number J1131
Project Title Popcorn Puzzle	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to find out which brand of microwave popcorn was a better buy. My hypothesis was that the cheapest brand of popcorn purchased would have the most unpopped kernels and that the most expensive popcorn brand would have the least amount unpopped kernels.</p> <p>Methods/Materials I purchased six boxes of different brands of buttered popcorn. Then I popped the 18 bags of popcorn using a consistent time and temperature in a microwave oven. After popping a bag I poured the popcorn into a bowl and separated the unpopped popcorn kernels from the popped popcorn. Then I recorded the number of unpopped kernels. Since the box weights differed, I had to weigh the unpopped kernels so that I could accurately compare my results. Then I divided the weight of the unpopped kernels into the weight of the bag of popcorn to arrive at a percentage of unpopped kernels. I used the price for each bag of popcorn and divided that price by the number of grams in a bag of popcorn to get the price per gram of unpopped popcorn. To determine how much was really paid for each gram of popped popcorn, I divided the price by the actual popped serving size (the number of grams per bag minus the number of grams that the unpopped kernels weighed).</p> <p>Results A summary of the relevant results which pertain to my hypothesis are as follows: Act II cost \$0.0057 per gram unpopped, had an average of 13.33 grams of unpopped kernels and as a result cost an average \$ 0.0065 per gram popped. Orville Redenbacher cost \$0.0089 per gram unpopped, had an average of 6.33 grams of unpopped kernels and as a result cost an average \$0.0094 per gram popped. Newman's Own cost \$0.0111 per gram unpopped, had an average of 11.33 grams of unpopped kernels and as a result cost an average \$ 0.0127 per gram popped.</p> <p>Conclusions/Discussion Based on my calculations, my hypothesis was not validated. I found that the cheapest popcorn was Act II, however it did not have the most unpopped kernels, after popping. The highest priced popcorn was Newman's Own. Surprisingly, it did not have the least amount of unpopped kernels, after popping. The best popcorn to buy, if you are looking purely at price, is Act II. IF you are looking for the best yielding popcorn, Orville Redenbacher had the best results in my testing. My project enlightens us about materials science because making comparisons systematically teaches us about comparing products for their value and usefulness.</p>	
Summary Statement For my project, I tested 6 different brands of popcorn to determine which was the best value.	
Help Received My mother proof read my report and my Dad taught me how to use Microsoft Excel to make the graphs.	