CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
J1502

Project Title
Crazy Calorimetry, Calories Consumed by You

Abstract

Objectives/Goals
Through this project I can demonstrate how food is being burned and stored in my body. I used a calorimeter in this demonstration to calculate the food I burned and the heat it gave off. I constructed this calorimeter by using a simple aluminum can, an insulator/holder, water, a thermometer, and basic chopped foods. I placed a fixed amount of water in the can, placed the insulator over it and stuck the thermometer through, and read the temperature. I burned an exact amount of chopped food, with the calorimeter over it, and read the temperature. Then by knowing the two temperatures, subtract them to find the difference in temp. I calculated the amount of Calories per gram I burned and then compared my results to the labeled calories in the product.

Conclusions/Discussion
In this project I realized that there were some sources of error. For example, while burning the food, some of the food remained unburned. This could have been the reason of the difference between the two data. Another example of why the results differed may have been due to the loss of heat when the sample was removed to be relit. The construction of the calorimeter was made with inexpensive items so that this project could be easily reproduced. This made the results some what inaccurate but to try and solve this problem of inaccuracy a thick insulation was put on the calorimeter. Foods that were high carbohydrates such as the cereal, were demonstrated in this experiment, to have less calories per gram than foods with more fats and oils such as peanuts and sunflower seeds.

Summary Statement
Through burnig the chosen foods, I made a calorimeter to measure the calories in those foods and compared them to their labels.

Help Received
used lab equipment at Genetic Identification Services