

Lab report caloric content of food purpose

[Business](#), [Industries](#)



Title: Caloric Content of Food

Purpose: To be able to measure the energy content of foods. Procedure: We are going to take food items and burn them to heat water to be able to determine the amount of "energy" a food source can emit.

Data Table 1: Food Item - Observations

Food Item Description:	Marshmallow	Peanut / Walnut	Potato Chip
Mass of food & holder - initial	40. 2g	18. 0g	15g
Mass of food & holder - final	38. 6g	16. 0g	12g
Mass of food burnt	1. 6g	2g	2, 5g
Mass of beaker	66. 5g	66. 4g	66. 5g
Mass of beaker & water	107. 2g	108. 2g	108. 2g
Mass of water	40. 7g	41. 7g	41. 7g
Water temp. - initial	23 C	22 C	22 C
Water temp. - final	31 C	72 C	32 C
Delta T (oC change)	8 C	50 C	70 C

--	--	--	--

Found it very interesting that the peanut was able to produce enough heat to change the temperature of the water so much.

Questions:

- A. Which of the foods tested contains the most energy per gram? The potato chip
- B. How do your experimental results compare to published values? I would say that my results were average
- C. What type of reaction is used in calorimetry? Combustion reaction
- D. What are the products of the reactions? Carbon dioxide and water
- E. Where did the products go? They vaporized into the air
- F. A student performing an experiment to determine the caloric content of a cashew nut collected the following
 1. Mass of cashew nut before burning: 0.55 g? After burning: 0.05 g?
Temp. increase of 200 g of water: 7.0 C.
 2. Calculate the total energy released by the combustion of the cashew nut by using the water temp. increase the mass of the water and specific heat capacity of water. $q = \Delta t \times m \times c_p = 58576$ joules
 3. Calculate the energy released per gram of cashew nut consumed in the reaction. $58,576\text{j}/0.55\text{g} = 106502/$
 4. $184 = 24,455$ or 2. cal
 5. Using the following standards (carbohydrates (4 Cal/g), protein (4 Cal/g), and fats 9 Cal/g), determine the caloric content of a bag of your favorite snack food.

Chili cheese Fritos Carbs= 60 Protein= 8 Fats= 90.

Remember: Lab notes are evidence of your work and of your understanding of the concepts demonstrated in the experiments. They are also the primary basis for your chemistry lab grade. Write neatly and try to express your thoughts clearly, concisely, and completely so that someone else could duplicate your results.