Soda Can Calorimetry

Objective: To compare the caloric content of different foods.

Table 1. Experimental data

Sample	Mass of Water (g)	Initial Mass of Food & Holder (g)	Final Mass of Food & Holder (g)	Initial Temperature (°C)	Final Temperature (°C)	Energy Content (kcal)	Energy Content (kcal/g)

Table 2. Data from packages

Food	Energy Content (kcal)	Serving Size (g)	Energy Content (kcal/g)

Analysis and Calculations

On your own paper, neatly show the following calculations for each food and answer the questions.

1. Based on your experimental results, determine the energy content in kilocalories per gram for each sample. (15 points)

   a. Determine the change in temperature of the water.

   b. Calculate the heat (calories) gained by the water.

   c. Determine the mass of the food burned.

   d. Calculate the energy content of the food sample in calories per gram.

   e. Convert cal/g to kcal/g (Cal/g).

2. Based on your experimental results, rank the foods from highest to lowest energy content (kcal/g). (1 point)

3. Based on the food packages, calculate the energy content of each food. Then rank the foods from highest to lowest energy content (kcal/g). (7 points)

4. Compare your experimental results to the data from the food packages. How do their ranking compare? What source(s) of error could explain the error in your experimental results? (3 points)