name:_____ period:_____ Unit 2: Combustion

Lesson 2.1 Computing the Energy in Food

- The modern metric unit of energy is the ___**joule**___.
- An older unit of energy is the ___**calorie**___.
- To convert use: ____**1**____ calorie = ____**4.2**____ joules
- A food calorie = 1000 energy calories = 1 kilocalorie = 1 kcal

Find the **grams per serving**

Find the food **calories per serving** on the label - remember that these are actually kcal of energy.

Compute the kcal per gram:

$$calories\ per\ serving = \underline{\textbf{300}}\ kcal$$

$$grams\ per\ serving = \underline{\textbf{102}}\ g$$

$$\frac{calories\ per\ serving}{grams\ per\ serving} = \underline{\textbf{2.9}}\ kcal/g$$

Nutrition Facts

Serving Size 1/2 cup (102g)
Servings Per Container 4

Amount Per Serving	
Calories 300	Calories from Fat 160
	% Daily Values*
Total Fat 18g	**28%**
Saturated Fat 9g	**45%**
Trans Fat 0g	
Cholesterol 45mg	**15%**
Sodium 250mg	**10%**
Total Carbohydrate 33g	**11%**
Dietary Fiber 1g	**4%**
Sugars 30g	
Protein 7g	
Vitamin A 15% •	Vitamin C 0%
Calcium 15% •	Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet.

Lab Bingo

Lesson 2.2 Bio-fuel Lab

Lesson 2.3 Combustion Conference

Lesson 2.4 Combustion Video

1. _____ is a fuel used a lot in the past, and even today.
2. The three most widely used fuels today are _____, _____, and _____.
3. A newer fuel often used in rockets is _____.
4. When a fuel is burned it always combines with _____.
5. Other products released during combustion are _____ and _____ that are emitted as a _____.
6. A very fast combustion reaction is called an _____.
7. We use fast reactions in _____.
8. Combustion reactions are used for: _____, _____, _____, _____, _____, and _____.

Word Bank

car engines	carbon dioxide	coal
cooking	explosion	gas
heating	heating water	hydrogen
manufacturing	motor vehicles	natural gas
oil	oxygen	produce electricity
water	wood	