Unit 5 Slides

Molar mass, percent composition, and molar conversions

Bellwork on goformative

Q: How rich is Avogadro?

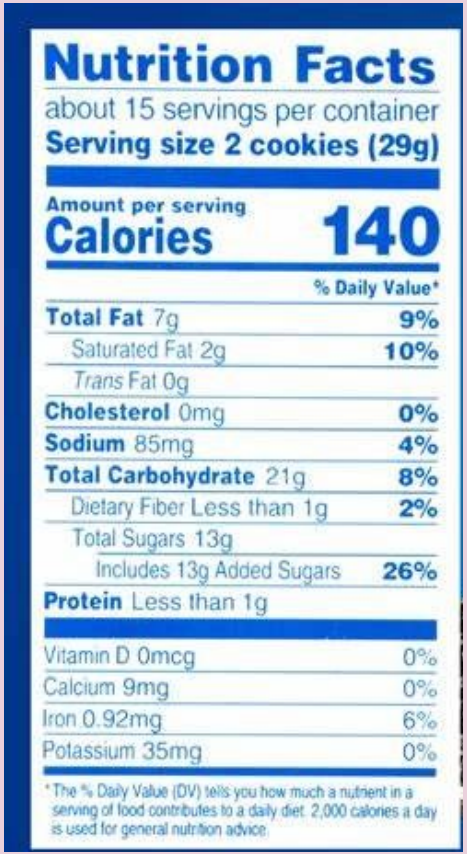
A: He's a multi-mole-ionaire.

Objective:

SWBAT use values specific to chemical processes IOT calculate the mole, molar mass, molarity, and % composition.

- Formative
- Agenda
- Objective
- Molar Mass Practice
  - CFU: Notes practice problems
- Mass Percent Gum Lab
  - CFU: Lab Worksheet
- Exit Ticket
  - On Formative

Turn and Talk: Which snack is healthier?



Nutrition Facts

about 15 servings per container

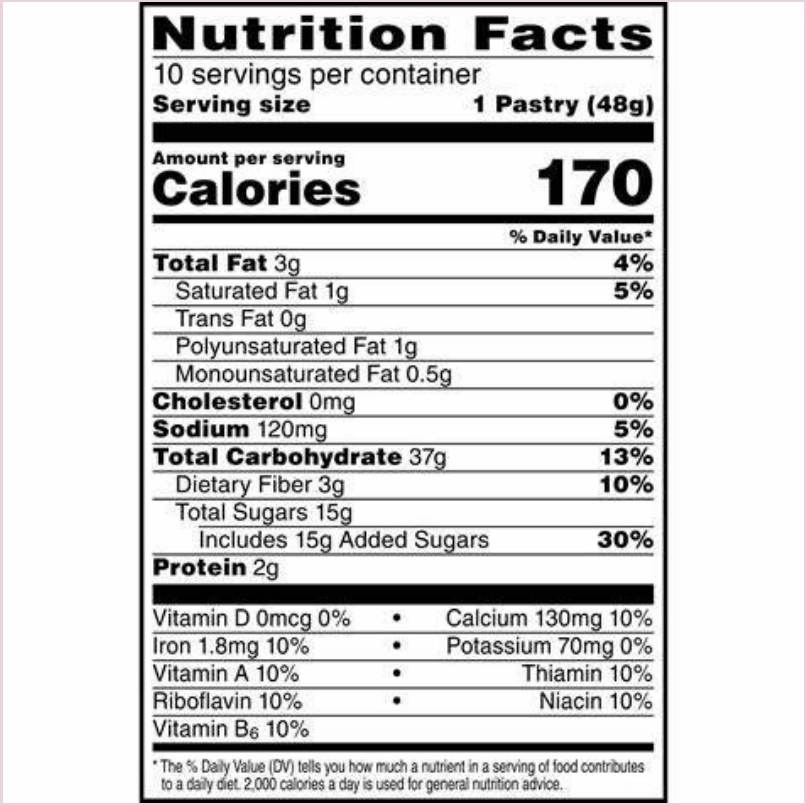
Serving size 2 cookies (29g)

Amount per serving

Calories 140

	% Daily Value*
Total Fat 7g	**9%**
Saturated Fat 2g	**10%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 85mg	**4%**
Total Carbohydrate 21g	**8%**
Dietary Fiber Less than 1g	**2%**
Total Sugars 13g	
Includes 13g Added Sugars	**26%**
Protein Less than 1g	
Vitamin D 0mcg	0%
Calcium 9mg	0%
Iron 0.92mg	6%
Potassium 35mg	0%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



Nutrition Facts

10 servings per container

Serving size **1 Pastry (48g)**

Amount per serving

Calories 170

	% Daily Value*
Total Fat 3g	**4%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Polyunsaturated Fat 1g	
Monounsaturated Fat 0.5g	
Cholesterol 0mg	**0%**
Sodium 120mg	**5%**
Total Carbohydrate 37g	**13%**
Dietary Fiber 3g	**10%**
Total Sugars 15g	
Includes 15g Added Sugars	**30%**
Protein 2g	

Vitamin D 0mcg 0%	•	Calcium 130mg 10%
Iron 1.8mg 10%	•	Potassium 70mg 0%
Vitamin A 10%	•	Thiamin 10%
Riboflavin 10%	•	Niacin 10%
Vitamin B_6 10%		

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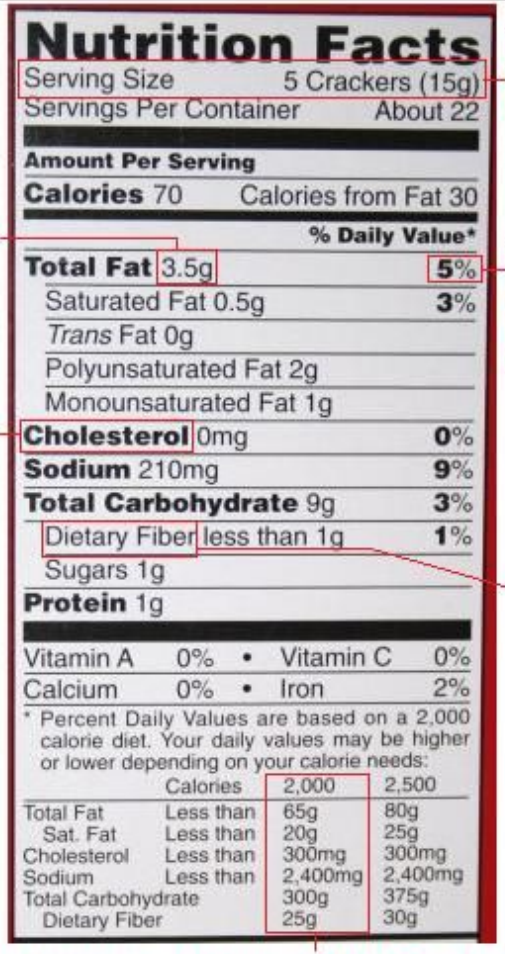


This serving size in grams is broken down by the categories below

The total mass in grams of that category in the serving size

This is the percent of the Daily Value the serving size fulfills for the corresponding category or subcategory.

One of the 4 main categories included in the Percent Daily Values

One of the 2 subcategories included in the Percent Daily Values

This is the mass recommended per day per person for a 2000 calorie diet for each category or subcategory.

Molar Mass

Sum of the atomic masses

Units: g/mol

Allows us to convert between grams and moles

What is the molar mass of $MgCl_2$

Practice- What is the molar mass of

1. HNO_3
2. $NaCl$
3. $Ca(OH)_2$
4. $Al_2(SO_4)_3$
5. $C_6H_{12}O_6$

Challenge problem: How many atoms are in a 3.56 g sample of Cu?

Percent composition

% composition= mass of a single element/mass of the whole compound x100

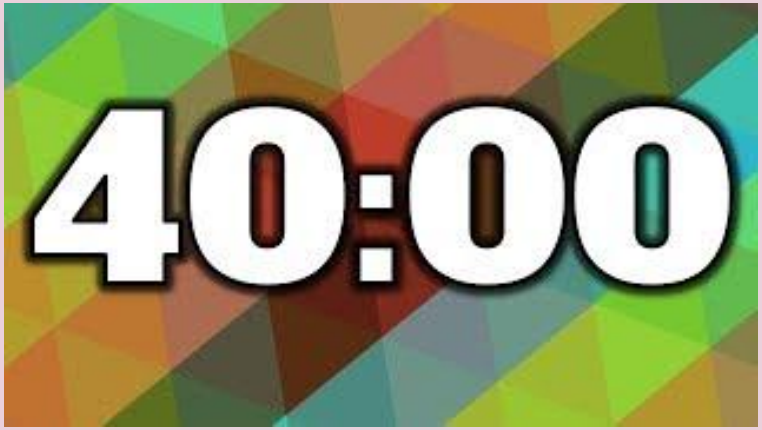
Work with your group to determine a procedure for determining the percentage of your gum that is made of sugar and the percentage that is made up of gum.

Hints for helping you come up with your procedure.

- Make sure you measure the mass of your gum BEFORE CHEWING (including the wrapper)
- Then make sure you measure the mass of your gum AFTER CHEWING (include the wrapper).
- As you chew the sugar dissolves and is no longer part of the gum. Thus sugar is removed in the chewing process.

EARLY FINISHER

Unit 17-Work Mode-Empirical Formula from Mass Composition



Exit ticket

1. What is the molar mass of CsF?
2. Calculate the percent by mass of each element in Cesium Fluoride (CsF)?
3. A piece of gum is 34 g. If 10 g of that piece of gum is sugar, calculate the mass percentage that is made up of gum and the mass percentage that is made up of sugar.

Molar Conversions

https://drive.google.com/file/d/1AT1e25tzsdq4jRUKmweY-dJu5UkUprGc/view?usp=sharing