

Purpose:

In this lab, students will learn how to determine the percent composition of sugar in a stick of chewing gum.

Procedure day 1:

1. Mass a stick of gum while it is still in its wrapper. Record the mass.
(Do NOT use a sugar-free gum. If you cannot chew gum, your teacher will “chew” the gum for you in a beaker of water)
2. Open the gum wrapper. Save the gum wrapper and write your name on it. Mass the stick of gum by itself.
3. Chew the stick of gum until no more flavor is tasted.
4. Place the chewed stick of gum back on the gum wrapper.
5. Let the gum dry overnight. Your teacher will have a box in which you can store your gum.

Procedure day 2:

6. After allowing the chewing gum to dry overnight, mass the gum on the wrapper. Record the mass below.
7. Dispose of the gum and wrapper in the proper container.

mass of gum and wrapper before chewing	
mass of gum without wrapper	
mass of gum and wrapper after chewing	

Data Analysis:

1. Does the mass of the chewing gum increase or decrease while being chewed?

Why does the mass of the chewing gum change?

Based on the data above, how many grams of sugar were in the stick of gum you used? Show your calculation.

2. Calculate the percentage of sugar in the gum using the following equation:

$$\text{Percent sugar in the gum} = \frac{\text{mass of sugar (g)}}{\text{mass of gum (g)}} \times 100$$

from conclusion question #1

mass of gum without wrapper

3. Do you have any evidence that any other chemicals besides sugar were dissolved as you chewed the gum?
