Name: _____ Date: _____ Period: ____

Lab DUBBLE BUBBLE BUBBLE GUM

LABORATORY QUESTION
What is the sugar content of Dubble Bubble bubble gum?

SAFETY PRECAUTIONS
Ensure that your hands have been washed before unwrapping gum and placing in your mouth. Do not re-chew gum after the completion of the experiment.

PRE-LABORATORY QUESTIONS

1. According to the nutritional information, each piece of gum has a mass of 6g with 5g of sugar. Using this information, what percent of the gum is sugar by mass?

%sugar = $\frac{m_{sugar}}{m_{gum}}$

2. If the chemical formula of sucrose (sugar) is $C_{12}H_{22}O_{11}$, how many moles of sugar do you have in each piece of gum?

3. How many molecules of sugar do you have in each piece of gum?

MATERIALS
· One piece of Dubble Bubble Bubble Gum with wrapper
· Digital scale

PROCEDURE
1. Unwrap one piece of Dubble Bubble bubble gum. Do **NOT** throw away the wrapper.
2. Place the wrapper on the electronic balance.
3. Record the mass of the wrapper.
4. Press the "Zero" button on the balance. The scale should read 0.00g after you have pressed this button.
5. Mass a piece of Dubble Bubble bubble gum.
6. Record the mass in your data table.
7. Chew the gum for several minutes until you believe that all of the sugar has been dissolved by your saliva.
8. Place the chewed gum in the wrapper.
9. Mass the wrapper and the chewed gum.
10. Record the mass of wrapper and chewed gum in your data table.

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DATA COLLECTION *(Don't forget units.)*

Recorded Data

	Recorded Data
Mass of Gum Wrapper	
Mass of Gum	
Mass of Wrapper and Chewed Gum	

DATA ANALYSIS

Show all work.

1. Calculate the mass of the chewed gum.

2. Calculate the mass of sugar in the gum.

3. Calculate the percent sugar in your original sample of Dubble Bubble bubble gum. (Refer to pre-laboratory questions for the formula.)

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POST-LABORATORY QUESTIONS

1. Scientific experiments are not always accurate and poor technique can often lead to bad results. What are some things that you could have done different in this lab to improve your results?

2. How did your results compare to your neighbors? Was there a difference?

3. If your results were different from your neighbors, why do you think this is?

4. How might your results be different if you did not press the "zero" (or tare) button on the scale?

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5. According to YOUR results, how many moles of sugar did you consume?

6. Using your results above, determine how many molecules of sugar you consumed from the gum.

7. Extra Credit: Calculate the percentage error of your measurement of the sugar's mass.