Bubble Gum Lab Report Names of group members

Problem: How much sugar is in bubble gum? How long does it last?

Objective:

Hypothesis:

(must be testable)

Materials:

2 pieces of gum

Balance

Paper cup/foil

Graph paper

Pre Lab: Calculate the molar mass of sucrose C12H22O11 =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Show your work:

Procedure:

1. Find the mass of a clean piece of foil
2. Choose the number of pieces of gum you wish to chew. Unwrap the pieces(s) and place them on the foil to find their mass. Be careful that the gum never touches the balance or the lab counter directly. Be sure that the same side of the foil is aways facing up.
3. Put the gum into your mouth and chew it for exactly one minute. If you are chewing multiple pieces, put them all in at the same time.
4. After one minute of chewing, remove the gum from your mouth , making sure that it has as little saliva on it as possible, and place it back on the foil to fine its mass again. Be sure not to mix up you foil with your lab partner’s foil!
5. Put the gum back in you mouth and chew it for another minute
6. Continue steps for and five until you have chewed at the gum for a total of 15 minutes.

Fill in the table to be able to calculate the percentage of sugar and how long the sugar lasts in your bubble gum.

Bubble gum:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **Time chewed (minutes)** | **Mass of foil (grams)** | **Mass of foil + gum (grams)** | **Mas of gum (grams)** |
| 0 min (before chew) |  |  |  |
| 1 minute |  |  |  |
| 2 minute |  |  |  |
| 3 minute |  |  |  |
| 4 minute |  |  |  |
| 5 minute |  |  |  |
| 6 minute |  |  |  |
| 7 minute |  |  |  |
| 8 minute |  |  |  |
| 9 minute |  |  |  |
| 10 minute |  |  |  |
| 11 minute |  |  |  |
| 12 minute |  |  |  |
| 13 minute |  |  |  |
| 14 minute |  |  |  |
| 15 minute |  |  |  |

Bubble gum:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **Time chewed (minutes)** | **Mass of foil (grams)** | **Mass of foil + gum (grams)** | **Mas of gum (grams)** |
| 0 min (before chew) |  |  |  |
| 1 minute |  |  |  |
| 2 minute |  |  |  |
| 3 minute |  |  |  |
| 4 minute |  |  |  |
| 5 minute |  |  |  |
| 6 minute |  |  |  |
| 7 minute |  |  |  |
| 8 minute |  |  |  |
| 9 minute |  |  |  |
| 10 minute |  |  |  |
| 11 minute |  |  |  |
| 12 minute |  |  |  |
| 13 minute |  |  |  |
| 14 minute |  |  |  |
| 15 minute |  |  |  |

**Analysis**:

1. Make a graph of the time chewed vs. mass of gum. Be sure to label correctly!
2. Assuming that all the mass that the gum lost was sucrose perform calculation to complete the following table. Remember that you will need to use the molecular weight of sucrose to convert from grams to moles. Be sure to show your work as well as showing your answers in the table.

**Example**: NaCl molar mass = 56 grams Na = 23

+Cl = 36

1 mole of NaCl = 56 grams

If I have 26 grams of NaCl, how many moles? 26 g NaCl 1 mole NaCl = 0.46 moles NaCl

56g NaCl

**% mass change = (mass after – mass before) x 100**

**Mass before**

|  |  |  |  |
| --- | --- | --- | --- |
| Minutes chewed | Total grams of sucrose lost | Total moles of sucrose lost | % of sugar in gum |
| 5 minutes |  |  |  |
| 10 minutes |  |  |  |
| 15 minutes |  |  |  |

1. How many minutes did it take for all of the sucrose to dissolve out of your gum (Look at graph)
2. Write your conclusion. Make sure you answer your hypotheses and give evidence (details) to support your conclusion.