**Bubble Gum Gaphing Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Parter(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Purpose:** To determine if chew time of gum has an effect on the size of the bubble blown.

**Materials:**

1 piece Brand A bubble gum

1 piece Brand B bubble gum

1 metre stick

1 piece of string (1m long)

**Procedure & Observations:**

1. Make descriptive observations. Find at least 3 things to say about each gum sample. Be descriptive. You may measure parts of the gum as well.

|  |  |  |
| --- | --- | --- |
|  | **Brand A: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Brand B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| Observations (at least 3) |  |  |

1. Set a timer. ONE partner will chew the first piece of gum for 60 seconds. DO NOT chew the second piece now.
2. Attempt to blow a bubble. Your partner will use a piece of string to measure the diameter (width) of the bubble at its widest spot. Hold the string against the metre stick to find the width in centimetres. Record this in the chart below.
3. Try blowing 2 more bubbles and measuring diameter each time.
4. Now chew for another 60 seconds then blow 3 more bubbles, measuring and recording diameter each time.
5. Repeat steps 5-7. Each time chewing for additional 60 seconds and measuring diameter.
6. Now switch. Your partner can now take the second piece of gum, and repeat the procedure you just did while you measure bubble size with the string.

|  |  |  |  |
| --- | --- | --- | --- |
| Chew Time |  | **Brand A: \_\_\_\_\_\_\_\_\_\_\_** | **Brand B: \_\_\_\_\_\_\_\_\_\_\_** |
|  |  | **Diameter in cm** | **Diameter in cm** |
| 1 minute | Bubble 1  |  |  |
| Bubble 2  |  |  |
| Bubble 3  |  |  |
|  | Average |  |  |
| 2 minutes | Bubble 1  |  |  |
| Bubble 2  |  |  |
| Bubble 3  |  |  |
|  | Average |  |  |
| 3 minutes | Bubble 1  |  |  |
| Bubble 2  |  |  |
| Bubble 3  |  |  |
|  | *Average* |  |  |

1. Chew longer if you feel the need and measure any bubbles you blow.

**GRAPH YOUR DATA**

* Using a RED pencil crayon, plot the Average diameters of bubbles for each time Brand A was chewed.
* Do the same for Brand B on the same graph, using a BLUE pencil crayon.
* Create a legend with a red line and label it with the name of brand A. Do the same in Blue for Brand B.
* Give your graph a relevant and descriptive title.

 Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**ANALYSIS**

1. Write down some observations of what you noticed about your gum’s texture and flavor as you increased chew time.
2. Which of the data you collected were ***quantitative***? (number-based)
3. Which of the data you collected were ***qualitative***? (descriptive, no numbers)
4. For partner 1 (who only chewed one brand of gum), What was the ***independent*** ***variable*** in this experiment? (The thing you changed on purpose)
5. What is the ***dependent*** *variable in this experiment? (Things that were affected by the change you made)*
6. What were the ***control*** factors in this experiment? List 2 or more.
(These are things you kept the same for both pieces of gum)

**EVALUATE YOUR EXPERIMENT**

1. Sources of error: Identify some unintended variables – either things we forgot to control or things we couldn’t control. Look for things we ignored that could have impacted our results.

**MAKE A CONCLUSION**

1. Make a conclusion. How does chew time affect the size of the bubbles you blew?
2. Based on your data, what do you think is the optimal chew time for each brand of gum? Brand A: \_\_\_\_\_\_\_\_ minutes Brand B: \_\_\_\_\_\_\_\_\_\_ minutes