

Gummy Bear Mass, Volume & Density Lab

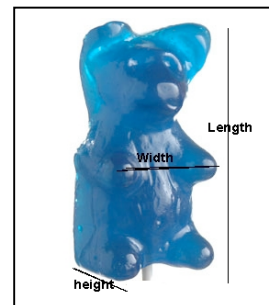
2 pts ec print

Questions to be answered: How does the size of a Gummy Bear change when it is soaked in water?

Hypothesis: I think the size of a Gummy Bear will: _____
when soaked in water because _____

Background information: Mass is the amount of matter in an object

Materials: (list everything that you will be using)



Procedure:

1. Fill your LABELED specimen cup with 20 ml of water
2. Place the piece of wax paper on the pan of the triple beam balance and mass your Gummy Bear. Record this data in the Initial line.
3. Find the length, width, height of the Gummy Bear in mm. Record this in the data chart
4. Calculate the volume of the Gummy bear. (length x width x height) Record this in the data chart
5. Calculate the DENSITY of the Gummy Bear using this data. Density = mass divided by volume (D= M/V)
6. Put the Gummy Bear in the beaker with water. Let it soak for 2 minutes. (use the stop watch)
7. After 2 minutes, take the Gummy Bear out of the water. Carefully pat it dry with a paper towel.
8. Find the mass and length, width, height again. Calculate the volume. Calculate the density. Record this data
9. Put the Gummy Bear back in the water for another 2 minutes
10. After 2 minutes, take the Gummy Bear out of the water. Carefully pat it dry with a paper towel.
11. Find the mass and length, width, height again. Calculate the volume. Calculate the density. Record this data
11. Repeat this 6 more times for a total of 21 minutes of soak time, and 7 data entries
12. Have 1 team from your table place the Gummy Bear in the beaker overnight, and plan to come in FIRST THING the next morning to measure & mass the Gummy Bear. They will share that data with the table team.

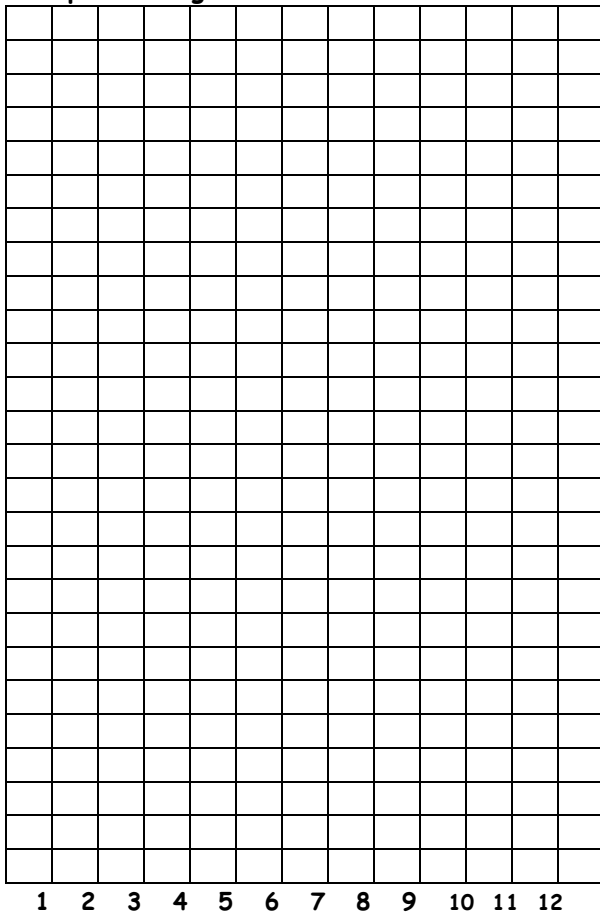
Trial	Time in Minutes	Length in mm	Width in mm	Height in mm	Volume mm ³	Mass gm	Density
1. Initial							
2.	After 3 min						
3.	After 6 min						
4.	After 9 min						
5.	After 12 min						
6.	After 15 min						
7.	After 18 min						
8.	After 21 min						
9.	overnight						
Total Change							

Make 4 LINE GRAPHS. YOU are plotting points, (NOT BAR GRAPHS) to help examine this data. '

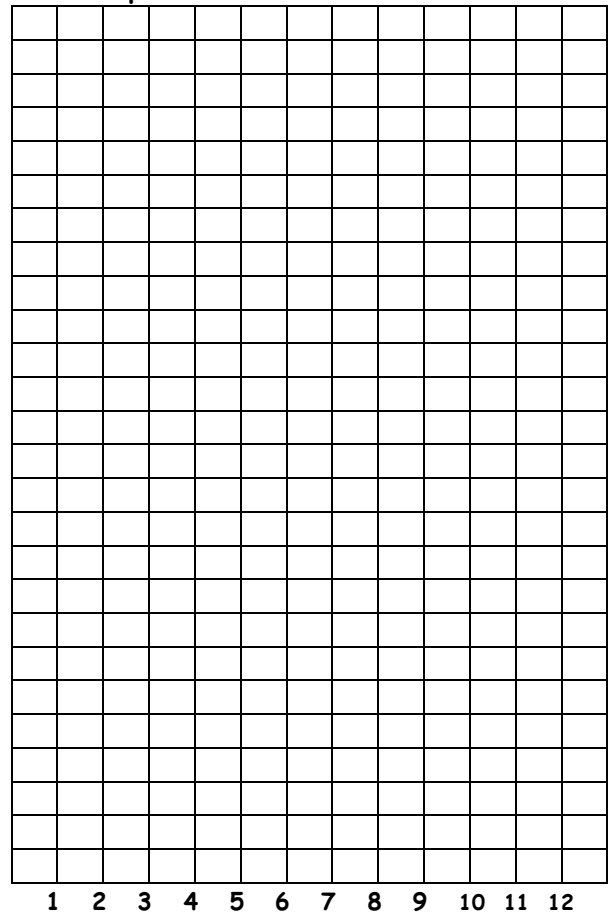
The 12 data trials are at the bottom of each graph.

Plot the Length data from the experiment on graph 1, and the volume data from the experiment on graph 2, the Mass data from the experiment on graph 3, and the Density data from the experiment on graph 4, Be sure to put the units on the side.

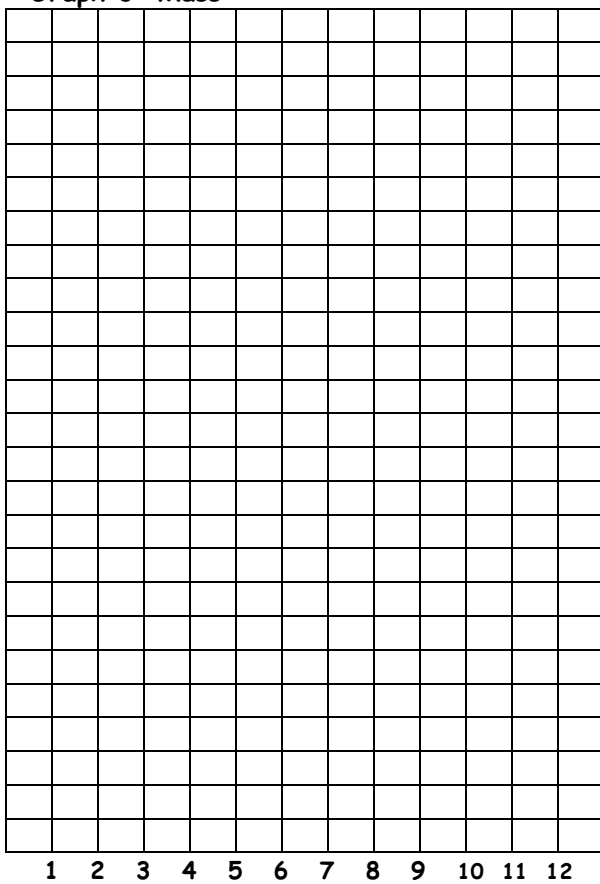
Graph 1: Length



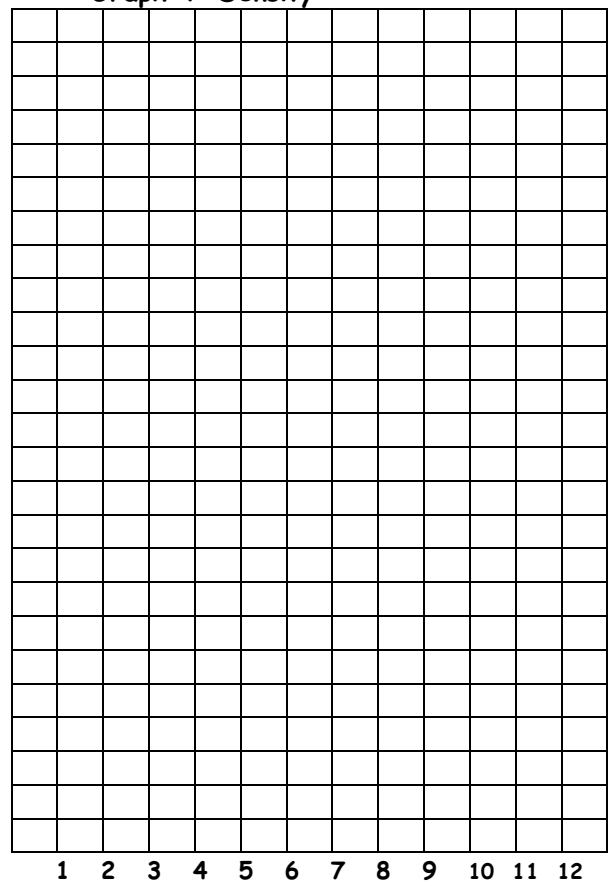
Graph 2: Volume



Graph 3: Mass



Graph 4: Density



Questions to Answer:

1. What is the relationship between time and length? Describe this relationship shown in graph 1:

2. What is the relationship between time and volume? Describe this relationship shown in graph 2:

1. What is the relationship between time and mass? Describe this relationship shown in graph 3:

2. What is the relationship between time and density? Describe this relationship shown in graph 4:

Conclusions:

1. After carefully studying the trends in the graphs, what can you say about Gummy Bears and water? What do you know or suspect you know now that you did not know before doing this experiment? Do NOT describe the data again. Describe what the data means.

2. What do you think would happen if you took the Gummy Bear that was soaked in water and put it in salt water overnight?

3. Describe an experiment to test your answer to question number 2 (above)

4. What were the controls in this experiment?

5. What was the dependent variable in this experiment?

6. What was the independent variable in this experiment?

7. Why was a line graph the best choice in this experiment?

8. Was your hypothesis correct? Why or why not?

9. Which change is greater? Volume or mass? Explain

10. Was there a change in density? Why?

11. How do your results compare to those of your classmates?
