

Lab: Gummy Bears 1 pt ec printing

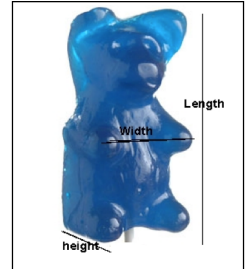
Main Question: How does the size and density of a gummy bear soaked in water change over time?

Hypothesis: If _____,
then _____

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) : _____



Variables & Controls

- Independent Variable: _____
- Dependent Variable: _____
- Controls: _____

Procedure:

1. Fill your LABELED **specimen** cup with **20 ml** of water (you will NOT be adding any more water)
2. Place piece of wax paper on the pan of the balance, mass your Gummy Bear. Record data on the **Initial line**.
3. Find the length, width, height of the Gummy Bear in mm. Record this in the data table
4. Put the Gummy Bear in the beaker with water. Let it soak for 2 minutes. (use the stop watch)
5. WHILE Gummy is soaking: Calculate the volume of the Gummy bear. (length x width x height) Record Volume AND Calculate the DENSITY of the Gummy Bear using this data. Density = mass divided by volume (D= M/V)
6. After 2 minutes, take the soaking Gummy Bear out of the water. Carefully pat it dry with a paper towel.
7. Mass and measure: length, width, height again. Record these numbers
8. Get Gummy Bear back in to the water to soak for another 2 minutes
9. WHILE Gummy is soaking: Calculate the volume again. (length x width x height) Record Volume AND Calculate the DENSITY again, using the new date. Density = mass divided by volume (D= M/V) Record
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
12. Repeat this 4 more times for a total of 10 minutes of soak time, and data entries
13. Place the Gummy Bear in the water for a period of 10 more minutes. Record data at step 7 (20 minutes)
14. Find the mass and length, width, height again. Calculate the volume. Calculate the density. Record this data
15. Place Gummy in his soaking tub overnight. We will measure & mass the Gummy during the next class .

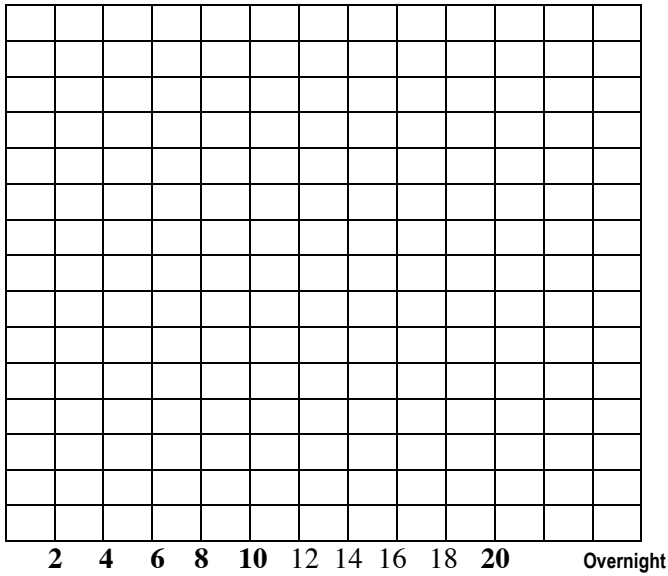
Remember: Gummy Bear **Volume** = length x width x height, Gummy Bear **Density** = mass / volume

Data Table (Quantitative Data)

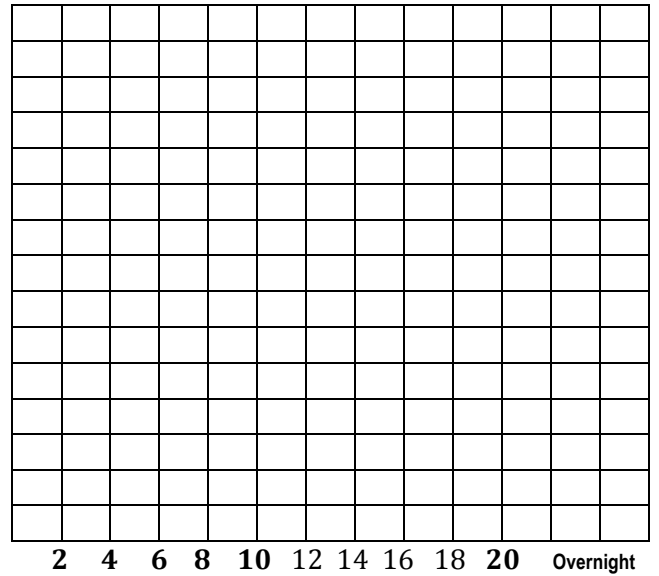
Trial	Soak Time	Mass (g)	Length(cm)	Width(cm)	Height (cm)	Volume (cm ³)	Density (g/cm ³)
1	0:00						
2	2:00						
3	4:00						
4	6:00						
5	8:00						
6	10:00						
7	20:00						
9	Overnight						
Total Change	-----						

Analysis: Use the data to make 3 line graphs. (**NOT BAR GRAPHS!**) Plot the points and connect the dots. LABEL!

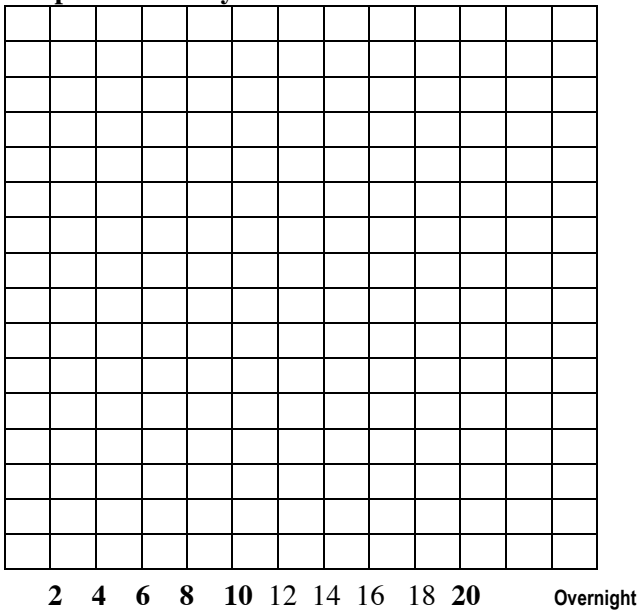
Graph #1: Mass & Soak Time



Graph #2: Volume & Soak Time



Graph #3: Density & Soak Time



Lab Observations: Write down at least 5 observations from this lab!

1. _____

2. _____

3. _____

4. _____

5. _____

1. Describe the relationship between **mass** and soak time, shown in graph 1.

2. Describe the relationship between **volume** and soak time shown in graph 2.

3. Describe the relationship between **density** and soak time shown in graph 3.

Conclusion: Use data to support your answer!

1. Was your hypothesis correct or incorrect? Explain using data & show EVIDENCE.

2. What can you conclude about gummy bears and water? Use data to support your answer.

