

# Abstract

## Purpose

The purpose for this project is to see which brand of bubblegum makes the biggest bubbles. When you're seeing what brand of bubblegum makes the biggest bubbles that helps other people know which one is the better one to buy. This helps the extra work of trying to figure out which is better.

## Procedure

The procedure to this project is to buy the materials. Then after you buy the materials you then gather them. After that you open the bubblegum package and the wrapper and chew up the bubblegum until you get comfortable with the way the bubblegum is. Afterwards, you then blow a bubble with the gum. You record your results, by recording your results you have your partner carefully measure your bubble with a piece of string. Then have your partner blow the other brand and record the results again.

## Conclusion

After all that, you are ready to state your conclusion. The bubblegum that made the largest bubble was Dubble Bubble. My hypothesis was correct. I chose Dubble Bubble bubblegum over Bubblicious bubblegum.

Last Name

# Safety

There are NO safety concerns.

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# Bubblegum Blow Out !



First and Last Name

Date

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# Acknowledgements

Credit goes to my mom and my sister for helping me complete my science fair project and assistance with my written report.

# Purpose & Hypothesis

The purpose for this project is to determine which brand of bubblegum makes the biggest bubbles. When you're seeing what brand of bubblegum makes the biggest bubbles that helps other people know which one is the better one to buy. This helps the extra work of trying to figure out which is better. My hypothesis is: If I chew up Dubble Bubble bubblegum and blow it, then it will be a bigger bubble than the Bubblicious.

# Review of Literature

Chewing gum has a history that spans as far back as the ancient Greeks, who chewed the resin from mastic trees. However, it wasn't until 1928 that Walter Diemer happened upon just the right gum recipe to make the very first bubble gum, a special type of chewing gum that allows the chewer to make bubbles. Originally, chewing gum was made from the latex sap of the sapodilla tree (native to Central America). This sap was called chicle. Other natural gum bases may be used, such as sorva and jelutong. Sometimes beeswax or paraffin wax is used as a gum base.

After World War II, chemists learned to make synthetic rubber, which came to replace most natural rubber in chewing gum (e.g., polyethylene and polyvinyl acetate). The last U.S. manufacturer to use chicle is Glee Gum. In addition to the gum base, chewing gum contains sweeteners, flavorings, and softeners. Softeners are ingredients such as glycerin or vegetable oil that are used to blend the other ingredients and help prevent the gum from becoming hard or stiff. Neither natural nor synthetic latex are readily degraded by the digestive system. However, if you swallow your gum it will almost certainly be excreted, usually in pretty much the same condition as when you swallowed it. However, frequent gum swallowing may contribute to the formation of a bezoar or enterolith, which is a sort of intestinal stone.

Thomas Adams first tried to change chicle into synthetic rubber products, before making a chewing gum. Thomas Adams attempted to make toys, masks, rain boots, and bicycle tires out of the chicle from Mexican sapodilla trees, but every experiment failed. One day in 1869, he popped a piece of surplus stock into his mouth and liked the taste. Chewing away, he had the idea to add flavoring to the chicle. Shortly after, he opened the world's first chewing gum

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factory. In February 1871, Adams New York Gum went on sale in drug stores for a penny apiece.

Walter Diemer might have invented bubble gum, but he wasn't the first person who wanted to make gum bubbles. There were early attempts at making bubble gum in the late 1800s and early 1900s; however, these bubble gums did not sell well because they were considered too wet and usually broke before a good bubble was formed. The invention of the first successful bubble gum is credited to Walter Diemer (1905-1998) in 1928. At the time, 23-year-old Diemer was an accountant for Flier Chewing Gum Company who experimented on new gum recipes in his spare time. Diemer considered it an accident to have hit upon a formula that was less sticky and more flexible than other chewing gums, characteristics that allowed a chewer to make bubbles. Diemer used a pink dye for his new gum because pink was the only color available at the Flier Chewing Gum Company. (Pink remains the industry standard for bubble gum.) To test his new recipe, Diemer took samples of the new gum over to a local store and it sold out in a single day. Realizing they had a new, wonderful type of gum, Flier Chewing Gum Company marketed Diemer's new gum as "Dubble Bubble." To help sell the new bubble gum, Diemer himself taught salespeople how to blow bubbles so that they in turn could teach potential customers. Dubble Bubble remained the only bubble gum on the market until Bazooka bubble gum was appeared after World War II.

The machines shaping and wrapping bubble gum, first sold in 1906, may be set for any one of a variety of shapes: stick, candy-coated, ball, pencil, kiss, or square. When scored stick gum emerges from the rollers, it has also been sprinkled with pure powdered sugar. The gum is then put aside to "set" in an air-conditioned room for at least 48 hours. The candy-coated gum is, after a 24-to-48 hour storage period, sometimes undercoated to help the coating adhere more firmly,



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then coated with candy in this case, pure, liquid sugar. The gum is then placed into pans where it is whirled with beeswax or another wax product. This process provides candy-coated chewing gum with its characteristic sheen. Chewing gum comes in an enormous variety of packages. Among them are the multiple-stick packs, the box-type of pack for candy-coated pellet gum, individually wrapped pieces of bubble gum, and the glass vending machines in which ball gum is revealed, unwrapped. The important thing about packaging is that it takes place under immaculate conditions as does the rest of the manufacturing process, so that the product reaches the consumer with all of its quality and purity fully protected.

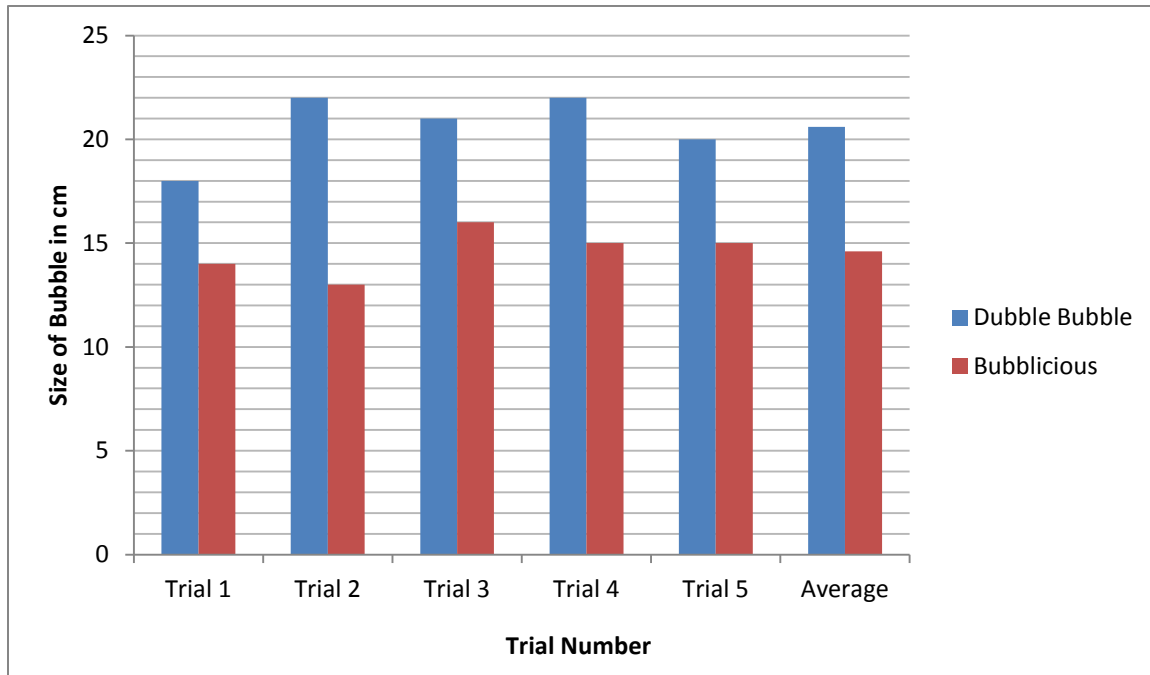
# Materials

- 2 small pieces of wax paper
- 1 meter long piece of string
- 1 meter stick
- 2 different pieces of bubble gum labeled A and B
- Partner

# Procedure

1. The person with brand A will chew their piece of gum for 3 minutes. The person with brand B does not begin chewing until all the tests on brand A are completed.
2. Blow a bubble.
3. Using a string, your partner will measure the diameter (distance across) the bubble. Put the string on the meter stick to measure the distance in centimeters (cm).
4. Record the measurement in a data table. Repeat the process for trials 2 and 3.
5. Find the average bubble size for brand A (add all the distances up and divide by 3) and put in the data chart.
6. Repeat steps 1-5 with brand B gum.

# Results



After chewing each gum and blowing bubbles 5 different times the results clearly indicate that Dubble Bubble will produce bigger bubbles than Bubblicious. In each trial the Dubble Bubble gum bubble was larger than the Bubblicious gum bubble. Overall, Dubble Bubble gum bubbles were on average 6 cm larger than Bubblicious.

# Conclusion

My hypothesis that Dubble Bubble would make a bigger bubble than Bubblicious was correct. I think I was able to blow a bigger bubble with Dubble Bubble because it remained soft and stretchy. This could be because of the addition of the ingredient confectioner's glaze which Bubblicious does not have. If I were to do this experiment again I think I would try it with only Bubblicious brand gum but a variety of Flavors. Or I could try using only Dubble Bubble but change the amount of time I chew each piece of gum for, or try storing the pieces of gum in different temperatures.

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