

Can someone replace sugar for a different substance?

Molly Gilmartin

Notre Dame School

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Acknowledgements

I would like to thank my mom and dad for buying the materials that I would need to do this experiment. I would also like to thank my siblings for testing my experiment and seeing if the cookies made a difference. Finally I would love to thank my teacher Mrs. Yee for helping me do this science fair.

Purpose and Hypothesis

Hypothesis

If I replace sugar with honey then will the cookie be more chewy because honey is a sticky substance.

Purpose:

The purpose of my investigation is to see if I can replace sugar in a cookie recipe with another sweetener without changing.

Research Paper

Can someone replace fake sugar for real sugar? Some types of sweeteners that can replace sugar are honey or syrup. Would stevia work to replace the sugar as a healthier option? If a person uses powdered sugar will it dry out the cookie? Would artificial sweetener work for sugar or would it make the cookie too liquidy and not even form?

Many people don't know where sugar comes from. Sugar comes from the leaves of sugar cane. Sugar was officially discovered by western Europeans around 1069. It was first recorded in England. This made a huge expansion with trading. Sugarcane only grows in the warmer or more tropical areas of the United States. The raw sugar cane goes through a process which includes purification, cleaning and drying. (Sugar Nutrition Resource Centre, 2020)

Where does honey come from? Bees produce the honey. The honeybee first originated in southern Asia. Even though there are over 20,000 types of bees in the world, only a couple of species of bees make honey. The species of bees that make honey is the honeybee. They produce honey by pollen and also the nectar. The nectar and the honey sticks on to their fuzzy body. Then they take the pollen and nectar and then store it in honeycombs for the other bees to take. (Smith, 2018) (National Pest Management Association, 2020)

Trees produce many things, paper, oxygen, even syrup! Syrup is made by the sap on maple trees. If a person drills a small hole into the maple tree then transparent syrup will run out

of the tree as a very thin liquid. People believe that an Iroquois woman found maple syrup on a cold winter day in the 1500's. The Iroquois woman discovered the syrup by throwing a tomahawk at a tree one night and then in the morning the woman saw a water-like liquid coming out of the tree, but really it was syrup. (Southern Maine Maple Sugarmakers Association,2020)

Can someone use powdered sugar to cook with or will it dry out the cookie? Powdered sugar is literally sugar that has been made into a powder. Powdered sugar is made by blending sugar in a blender. It can be used to cook with and also it can be used in recipes that are not do not require cooking. One way people can enjoy powdered sugar is to sprinkle it on strawberries(or any other berries) (Conde Nast,2020).

Bananas grow from trees. People think that bananas come from the south of Asia but others think the South Pacific. People also think that bananas were the first cultivated fruit. Bananas have been used to replace sugar before. Bananas are really grown on trees! You can make many things with bananas like banana bread, banana bread is a good one because the bananas give a lot of the sweetness in the bread. Bananas are really grown in Malay Archipelago in south west Asia. Bananas again are used in many things to get them sweetened without using sugar such as pancakes, muffins.

Materials

In this experiment the ingredients that will be used/needed are..

1 cup of softened butter

1 cup of packed brown sugar

2 large eggs

2 teaspoons of vanilla extract

1 teaspoon of baking soda

2 teaspoons of hot water

½ teaspoons of salt

3 cups all purpose flour

2 cups semisweet chocolate chips

To sum it all up this experiment will see if someone can replace sugar for a different substitute or healthier substan

Procedure

1. First wash your hands
2. Second get out all your ingredients
3. Preheat your oven to 350 degrees fahrenheit
4. Next grab a big bowl and add the following ingredients:
5. 1 cup of softened butter
6. 1 cup of packed brown sugar
7. 2 large eggs
8. 2 teaspoons of vanilla extract
9. 1 teaspoon of baking soda
10. 2 teaspoons of hot water
11. $\frac{1}{2}$ teaspoons of salt
12. 3 cups all purpose flour
13. 2 cups semisweet chocolate chips
14. Add all your replacements for sugar
in 4 separate bowls
15. then get a big cookie pan and place the cookies

16. finally put the cookies in the ocean for 10 minutes

Data/Graphs

Results

In the end the cookies came out in a cookie form. The banana cookie was a little mushy but it all summed up to be very good. The powdered sugar cookie came out dry and not really like a cookie sit was still in the shape of a ball. Next the honey cookie was surprisingly very good and it baked. The syrup cookie is like the honey cookie. It was very good. The only thing is that the syrup cookie baked really fast so it was a little burned.

Conclusion

In conclusion I highly recommend doing this experiment. In my opinion these cookies tasted a lot better than a regular cookie. Even though a regular cookie and a banana cookie are two totally different things, the cookies all tasted really good. I really enjoyed doing this experiment and I hope to do it again!

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Sources of Error

I wish I added more flour so then the cookies could have been less chewy.

