

# Will different types of flour affect how much a cupcake rises?

Project ID: #  
1500 E.25th  
Farmington, NM 87410  
US

## Introduction

What is already known about flour is Cake flour, has way more sugar than all other flours. All purpose flour is the most common of the flours. Almond flour is rich in vitamin E. Whole wheat flour has a nutty but tasty flavor.

I was trying to figure out will cupcakes with different types of flours affect how much that cupcake rises in the oven.

My hypothesis is Cake flour will rise the highest than all the other cupcakes. My research question is, Will different types of flours will affect how much a cupcake rises. The purpose of this experiment was to learn more about chemistry because I want to become a baker with my own cafe, so I like to know my about this stuff. Also for people who need to know about how much certain flours that rise in the oven.

## Methods

I found all my flours and baked them in the oven, once they were done, they cooled and I measured them.

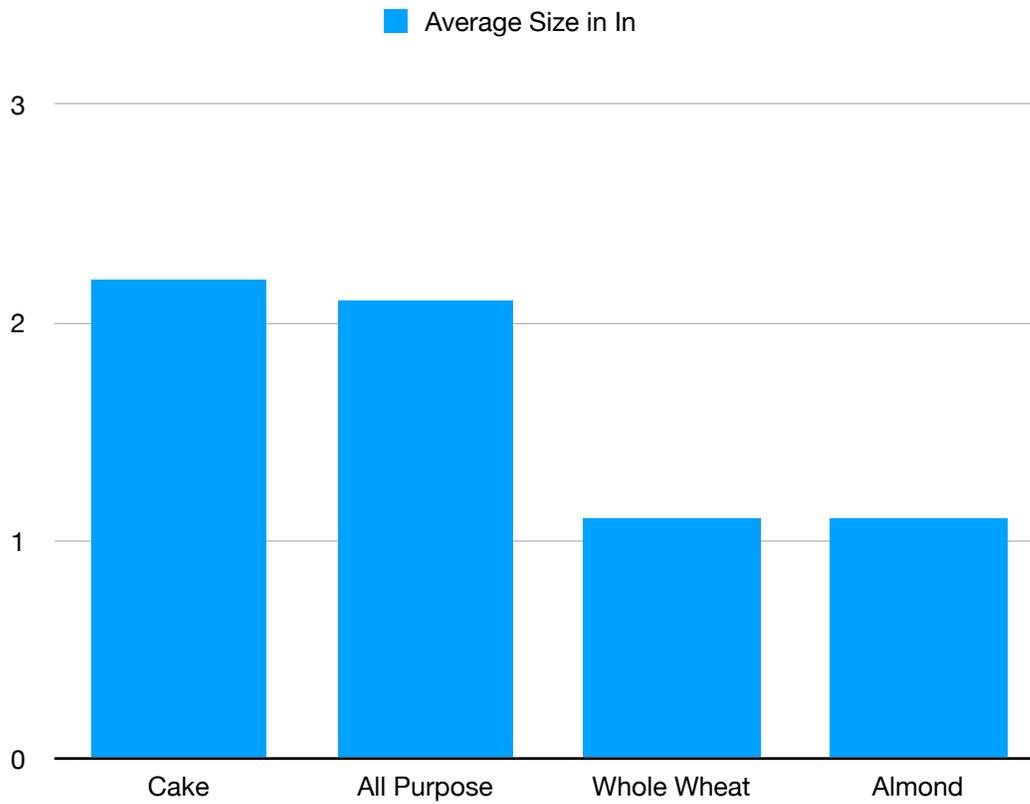
The data I collected was Cake flour with  $2 \frac{1}{3}$  inches, All purpose flour with 2 inches, next is Whole Wheat flour with  $1 \frac{1}{3}$  inches, and finally Almond flour  $1 \frac{1}{2}$  inches.

I collected my data by letting them cool and taking the ruler to the bottom of the cupcake to the top and writing it in my notes so I wouldn't forget.

My control was Cake flour because my hypothesis was cake flour would rise the highest. Other variables are All purpose flour, Whole wheat flour, and Almond flour.

### Results

Cupcakes	Cake flour	All purpose flour	Whole wheat flour	Almond flour
1	2 1/3 inches	2 inches	1 1/3 inches	1 1/2 inches
2	2 inches	2 inches	1 1/2 inches	1 1/2 inch
3	2 1/3 inches	2 1/2 inches	1 1/3 inches	1 inch
Average	2,2	2,1	1,1	1,1



## Discussion

Cake flour has the more sugar so it makes it rise the most. All purpose flour is most common. Whole

Wheat flour has a nutty flavor and a darker color. Almond flour is one of the healthiest type of flour.

Errors in my experimenting could have been eliminated because my measurement might not have been exact for each batch of batter. There were air bubble on the top of the batter because I did not slam the cupcake tins before baking.

A problem was that the almond flour sunk in the cupcake tin, which was weird because I never had worked with Almond flour. Also, that was a good experiment in which I should learn more about for future to come! I had to measure almond flour inside the cupcake tin because of the incident of the almond flour sinking and I couldn't pull it out or it would fall apart.

## CONCLUSIONS

The results answer my research question because all the different kinds of flours used rose, but some more than others. My hypothesis was supported because I figured out how much each cupcake flour rose and measured each batch and figured out the 1st, 2nd ,3rd and 4th, and cake flour was my highest.

So, my hypothesis was right.

My application for my work is to help people with gluten problems, diet problems, lose weight, eat more healthy in which Almond flour is considered to have more minerals and vitamins. When my project comes in to play is when the rising can help with the gas bubbles expand in the heat of the oven and rise up, giving you a fluffy and airy cake.

## References

<https://natashaskitchen.com/perfect-vanilla-cupcake-recipe/>

## Photos

**All photos were taken by the researcher.**

All purpose flour-



Mixing ingredients

In the oven!



All purpose flour when done

All photos taken by researcher

Cake flour-



Mixing ingredients



Mixed  
(Once added milk & baking soda it got pale)



In the oven!



Cake flour when done

Almond flour-



Mixed ingredients



In the oven.



Almond flour when done

All photos were taken by researcher  
Whole wheat flour-



Mixed ingredients



In the oven



Whole wheat flour when done

All photos were taken by researcher  
Other pictures-



All 3 of them



All cupcakes in the cupcake tin



Side picture of all the cupcakes in the tin

