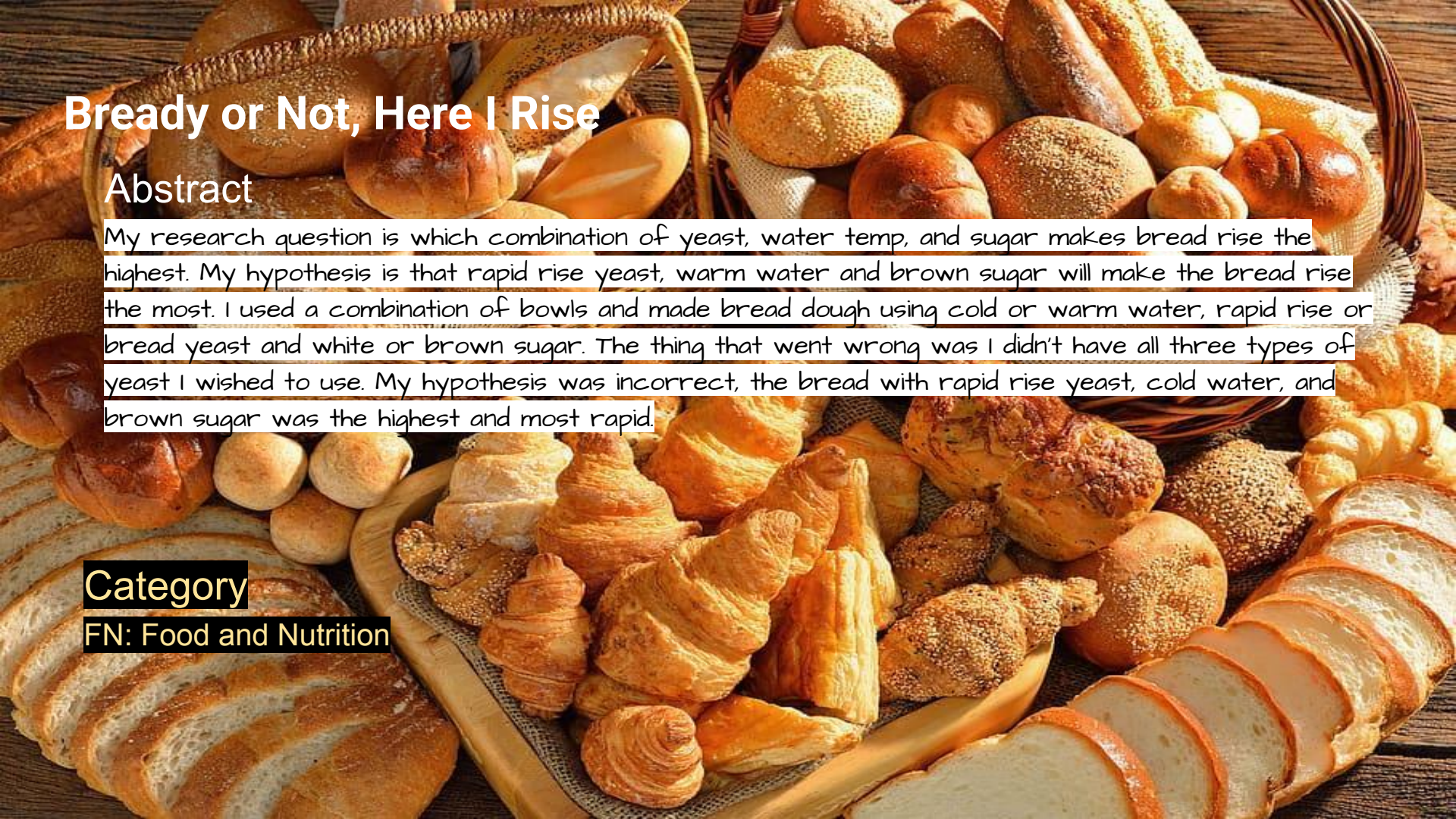
Bready or Not, Here I Rise



Abstract

My research question is which combination of yeast, water temp, and sugar makes bread rise the highest. My hypothesis is that rapid rise yeast, warm water and brown sugar will make the bread rise the most. I used a combination of bowls and made bread dough using cold or warm water, rapid rise or bread yeast and white or brown sugar. The thing that went wrong was I didn't have all three types of yeast I wished to use. My hypothesis was incorrect, the bread with rapid rise yeast, cold water, and brown sugar was the highest and most rapid.

Category

FN: Food and Nutrition

Introduction

Hi, I'm in 5th grade, and for my science fair project, i'm doing which yeast makes bread rise the most, inspired by Srta. Ortiz. This idea sparked a thought, what yeast makes bread rise the most? And since I am a baker at home,I loved the idea.

Research

I learned about how yeast can affect bread. Greatly based on how you care for it. Like if yeast is in too hot of temperatures it will die, and you will get very dense bread because the yeast will be dead and since it would be dead, it won't produce air bubbles, so your bread will not rise. And how certain breads need certain yeasts, for example, gold yeast is used for high-sugar, enriched doughs, while instant or active dry yeast is used for lean breads. And lean means breads with a chewy inside, but a tough crispy outside, but enriched breads are like the soft sandwich breads your family might use to make your sandwiches in your lunches.

Hypothesis (experiment) or Problem/solution (engineering project)

I think that the the combination of rapid rise yeast, warm water and brown sugar will rise the most because, yeast, if it has too cold of water it will not produce air bubbles, which means the bread will not rise

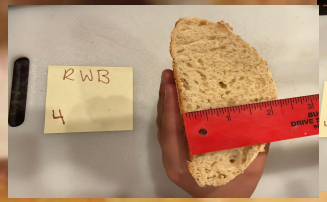
Procedures

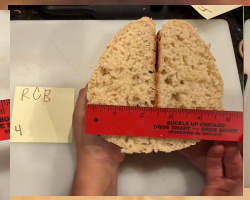
1. Label 8 large bowls RWW, RWB, RCW, RCB, BWW, BWB, BCW, BCB.
2. Add 150g of flour to each bowl and 1 teaspoon of sugar to each bowl.
3. Add ½ teaspoons of yeast to all of the bowls that begin with R.
4. Repeat step 3 to all the other bowl remaining, but with bread yeast instead.
5. Mix the dough together with a wide spoon, for about 1 minute, then hand knead the dough for 3 minutes. Then cover with a kitchen towel and let it rise for 40 minutes.
6. Repeat step 5 with all of the other bread doughs, amd set a 40 minute timer each time you cover the bread for rising.
7. After the bread is done rising, bake the bread at 375 degrees ferinhight.
8. Let the bread cool until it is warm to the touch, then cut it open and measure the insides.

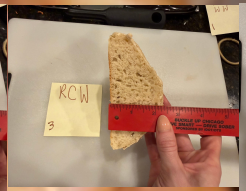
Key
R=rapid rise yeast
W=warm water
W=white sugar
C=cold water
B=bread yeast
B=brown sugar

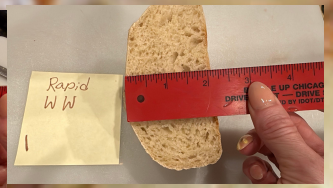
Since this experiment was an experiment on baking, you may not get the exact same results.

Results

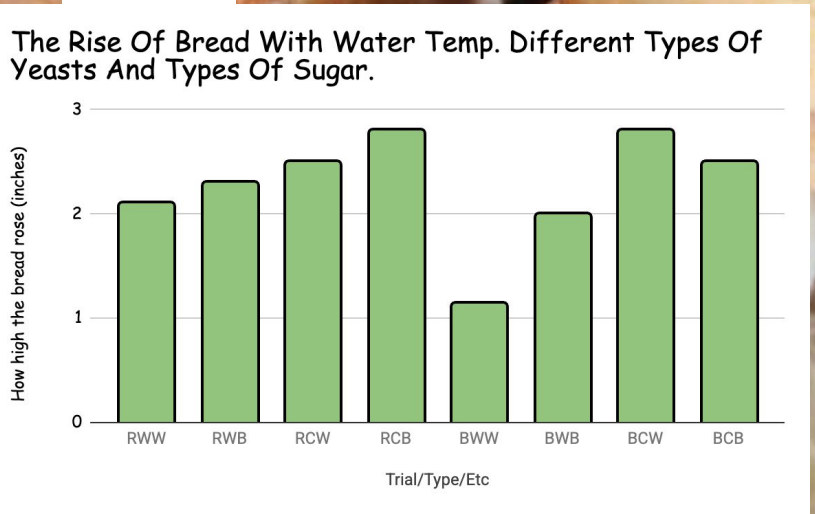








This graph shows the highest breads that rose the most, as you can see, the combination of rapid rise yeast,cold water and,brown sugar.



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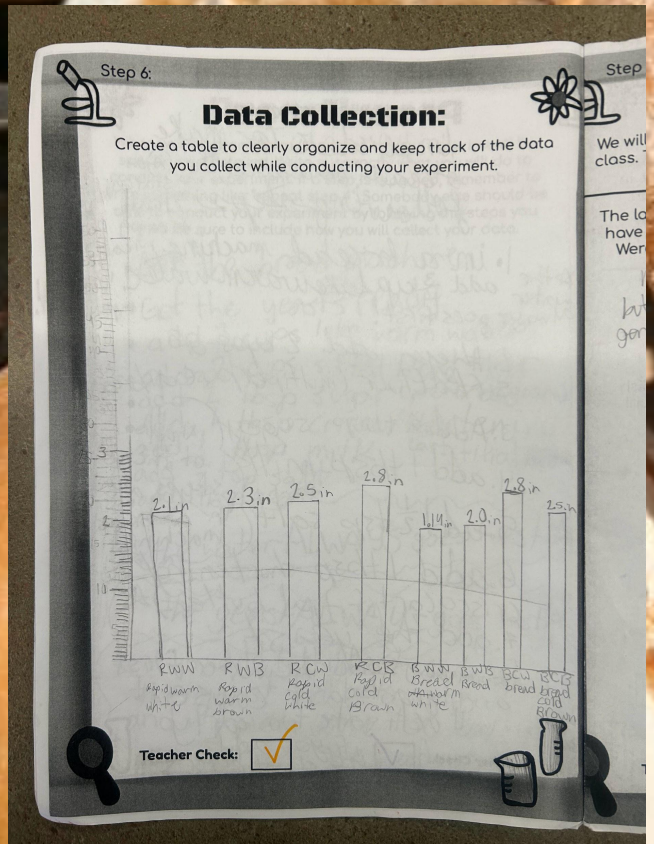
Conclusion/Discussion

My hypothesis was incorrect, because the combination that reached an outstanding height of 2.8 inches was the combination of rapid rise yeast, cold water and brown sugar. My hypothesis was incorrect because I stated that the bread with rapid rise yeast, warm water and brown sugar was most likely to rise the most. Though I knew that the cold water was also the most likely to rise the highest, I chose warm water because like I said in the 5th slide, "if yeast has too cold of water it will not produce air bubbles, which means the bread will not rise."One thing that I would change if the experiment were to be run again would be to have another yeast or sugar type to the mix so that the breads would have a better chance of rising the highest.

Scientific Journal



I used a graph to show what breads rose the most, as you can see, the combination of rapid rise yeast, cold water and brown sugar rose the most.

References

https://www.kingarthurbaking.com/learn/resources/yeast

https://www.bobsredmill.com/articles/what-temperature-kills-yeast

Here are some of the websites I used to research information my project.