

Science Fair Logbook

Dec 7 - Project ideas

- What brand of Microwave popcorn pops the most kernels
- What brand of toothpaste works the best
- What brand of mouthwash works the best to clean a eggshell

Dec 12 - Research Questions

- How does popcorn pop?
- What makes popcorn kernels pop?
- what exactly are popcorn kernels made out of?
- Why do some popcorn kernels pop and some don't

Dec 12- Big Question

Today I picked my project and came up with the question I wanted to experiment with.

What brand of microwave popcorn pops the most kernels and leaves the least amount of kernels unpopped

Dec 14- Variables

Today my teacher taught the class about what a variable is. We watched a video on variables from plants. I then came up with the variables for my project.

Controlled Variable: I will use the same microwave and they will all be butter flavored

Dependent I will pop three bags of each brand and I will count and bag the unpopped kernels to determine which brand has the least amount of unpopped kernels

Independent: I am changing the brand of microwave popcorn by using the three top rated popcorn brands

Dec 15

After I completed my research in class and I also surveyed people on what type of popcorn they think leaves the least amount of kernels. I then formulated my hypothesis.

Dec 18– Hypothesis

If I pop the popcorn brand Orville Redenbacher then it will have the most unpopped kernels than the other brands. I think this because of the research I did. I interviewed 20 people to see what their favorite brand of microwave popcorn was and what they liked best about it. Most of them said that Orville Redenbacher popped the most popcorn kernels and tasted the best. So by my research I think that Orville Redenbacher will pop the most kernels and leave the least amount of kernels remaining.

Dec 19– Procedure

We learned about how you have to write the steps down for your project. I wrote out how I was going to complete my experiment.

Dec 21

I went shopping with my mom to Costco, Walmart and no frills to get the different brands of popcorn. I got kirkland from Costco, Orville from Walmart and No Name from No Frills

I then came home and with my mom we figured out the cost per bag for each popcorn brand. I wrote it out on paper and have attached it to the log book.

Dec 22

I looked at the different cooking times for the microwave brand, see my page attached to the log book.

I then completed my experiment, I popped each bag. The first bag did not pop proper because of the time I chose I put information on the page attached.

Dec23–Jan 6: Christmas break I took a break

Jan 11

I met with Emily from the University of Calgary on Zoom to talk about my project. She suggested that I should look at the ingredients in each popcorn bag and make a venn diagram.

Jan 13

I started my trifold and put red stripes on it to decorate to look like popcorn container.

Jan 16

I put all my data into graphs using google sheets so I could analyze my data.

Jan 29

I added all of my information on my trifold and created my trifold.

Jan 30

I made a venn diagram comparing all the ingredients in each of the popcorn brands. It was interesting to see how the ingredients were different as I thought that the ingredients would only be popcorn kernels and butter. There were a lot of ingredients I had never heard of.

Feb 8th

I presented my project at our school science fair.

• Science Fair Idea's

- What brand of popcorn pops the most kernels?
- What toothpaste works the best?
- What type of pop makes the egg shell cleaner?
- What brand of mouthwash works the best?

Research Questions



- how does popcorn pop?
- what makes popcorn kernels pop?
- what exactly are popcorn kernels made out of?
- why does some popcorn kernels pop and some don't?

Big Question
What popcorn

Variables

Independent Variable (Manipulated)

↳ what i am changing ↴

the different popcorn brands

Dependent Variables (Responding)

↳ what happens ↴

how many kernels left

Control Variable

↳ keep same ↴

Same microwave and
the same amount of
time, butter flavor for
all.

Different brands

- no name \$2.00 for 3 Packs \$0.66 per 1 bag
- orville Redenbacher \$3.99 for 3 Packs \$1.33 per bag
- Skinny Pop = \$8.50 for 6 Packs
- Presidents choice = \$3.29 for 3 Packs
- Kirkland = \$1.36 per 3 bags \$0.45 per 1 bag

Kirkland is only available in bulk quantities so it was a little bit cheaper per bag. So I took the total price of the box \div by how many packages in the box and then times it by 3 and the number I got was \$1.36

Microwave Cooking times

	No Name Recommended. 1:30 to 2:00 minutes	1:45 105
	Orville Redenbacher Recommended 1:30 to 2:30 minutes	2:00 120
1:50	Kirkland Recommends 1:45 minutes	1:45 105

How I chose the times:

- Took Average of Recommended times 330
- Converted times to seconds only 110
- Added them together.
- Divided them by the total number of times
- then found out the average
- leaving me with 110 seconds or 1:50 minutes

5 11 6 = 22 3 3 1 1 3 3

- Results -

Kirkland

Trial 1: 79 kernels left
Time 2:30

Trial 2: 64 kernels left
Time 2:30

Trial 3: 81 kernels left
Time 2:30

Failed trial: 227 kernels left
Time: 1:50

Failed trial

The original number for time i Chase was 1:50, but

No Name

Trial 1: 60 kernels left
Time 2:30

Trial 2: 78 kernels left
Time 2:30

Trial 3: 65 kernels left
Time 2:30

Orville Redenbacher

Trial 1: 70 kernels left
Time 2:30

Trial 2: 38 kernels left
Time 2:30

Trial 3: 27 kernels left
Time 2:30

Interviews (family and friends)

Auntie Chelsea: No name - Because it tastes good

Auntie Taylor: Orville Redenbacher - Its sweet and salty

Nana Orville Redenbacher - It doesn't leave a lot of kernels

Gramma Jo: Orville Redenbacher - Because the kernels so big

Uncle Chris: Orville Redenbacher - Because it has the the most butter

Gramma: Orville Redenbacher - Because it's tasty and buttery

Grandpa: Kirkland - Most of the bag pops

Mom; Kirkland - The amount of bags in the box

Dad: Kirkland - Price and its buttery

Heyden: Orville Redenbacher - Really buttery

Peyton: Orville Redenbacher -

Greta: Orville Redenbacher - because it's really buttery butter on every piece

Ollie: Kirkland - Because its buttery

Auntie Tiff Kirkland - Because it's cheap and i like it

Uncle robbie: Kirkland because its cheap

Uncle shane; Doesn't like popcorn - Gets stuck in my teeth

Auntie Jaycee : Doesn't like popcorn

Mrs V. Orville Redenbacher - Pops the best kernels