

RESEARCH

Mint Mentos have lots of tiny craters inside them that create greater surface area. Having more surface area causes more reaction.

The Mentos sink to the bottom of the bottle. Carbon dioxide bubbles form around the Mentos very quickly and in huge quantities and shoot out of the bottle.

[NOTE—I expect you to do more research and to write one to two pages.]

List of Works Consulted

“Diet Coke and Mentos Eruption.” *Wikipedia*. 14 January 2015. Web. 16 January 2015.

[NOTE—I expect you to do more research and to list *at least* three good resources.]

QUESTION ONE

How does the type of soda mixed with mint Mentos affect the amount of soda left in the bottle after the two are mixed and the mixture erupts out of the top?

QUESTION TWO

How does the type of Mentos affect the amount of soda left in the bottle after the two are mixed and the mixture erupts out of the bottle?

HYPOTHESIS ONE

Eighteen students think that the diet Coke will erupt the most and leave the least soda in the bottle because it has less sugar in it. At least one student did the experiment before.

One student thinks the diet caffeine-free Coke will erupt the most. It's a guess that caffeine might make a difference.

One student thinks the Dr. Pepper will erupt the most.

HYPOTHESIS TWO

Nine students think mint Mentos will cause the biggest reaction because it has more flavor. At least one student did the experiment before.

Two students think orange Mentos will cause the biggest reaction. Some students say they won't because they have a different coating on the outside.

Five students think green apple Mentos will cause the biggest reaction.

No students think strawberry Mentos will cause the biggest reaction.

MATERIALS AND EQUIPMENT

Q1— three 2-liter bottles of diet Coke

three 2-liter bottles of caffeine-free diet Coke

three 2-liter bottles of Dr. Pepper

Q2— nine 2-liter bottles of diet Coke

mint Mentos

strawberry Mentos

orange Mentos

green apple Mentos

geyser tube

liquid measuring cup

PROCEDURE—QUESTION ONE

1. Put the geyser tool on the diet Coke bottle.
2. Drop in the mint Mento.
3. Measure how much liquid is left in the bottle.
4. Repeat twice.
5. Average the results and record.
6. Repeat with the diet caffeine free Coke.
7. Repeat with the Dr. Pepper.

PROCEDURE—QUESTION TWO

1. Put the geyser tool on the bottle of the best liquid from the first experiment.
2. Drop in the orange Mento.
3. Measure how much liquid is left in the bottle.
4. Repeat twice.
5. Average the results and record.
6. Repeat with strawberry Mentos.
7. Repeat with green apple Mentos.

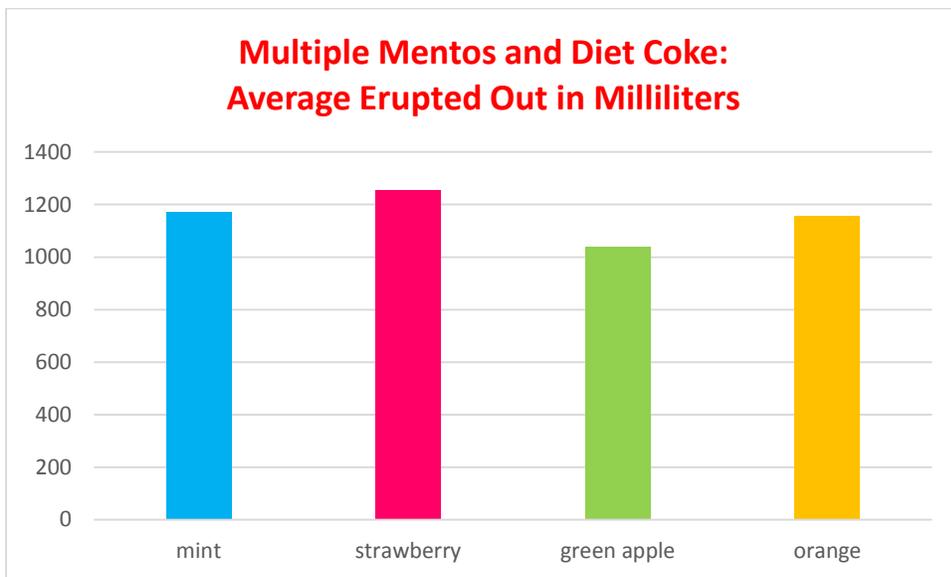
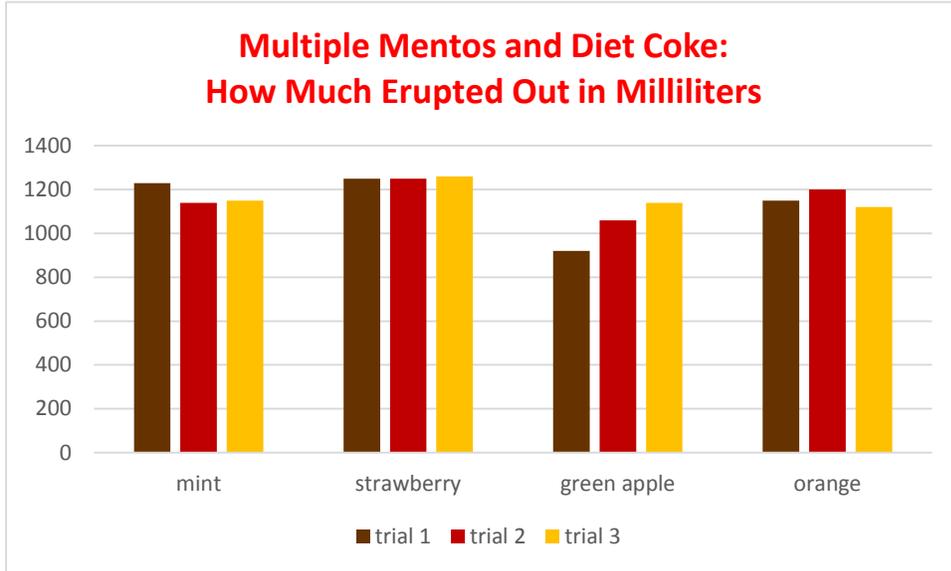
EXPERIMENTAL DATA—QUESTION TWO

	trial 1	trial 2	trial 3
mint	770	860	850
strawberry	750	750	740
green apple	1080	940	860
orange	850	800	880

	trial 1	trial 2	trial 3
mint	1230	1140	1150
strawberry	1250	1250	1260
green apple	920	1060	1140
orange	1150	1200	1120

	AVERAGE
mint	1173
strawberry	1253
green apple	1040
orange	1157

GRAPHS OF DATA—EXPERIMENT TWO



ANALYSIS OF RESULTS

In experiment one we observed very high geysers with spheres of liquid exploding out. They looked like bombs in the air. They went super high. It looked like we hit oil.

In experiment two we saw some slight colors added to the sodas—pinkish or greenish or orangish. The wind was stronger that day so it made the soda go everywhere. It was darker and cooler out.

The results weren't consistent for any soda in experiment one although they were most consistent for diet Coke. Clearly, Dr. Pepper did not erupt very well at all. Diet Coke did the best.

The results for experiment two show that the strawberry Mentos exploded much higher than green apple or orange. But they only went a little higher than mint.

We think the amount of caffeine and sugar might have something to do with our results. It might have to do with the amount of carbonation.

We did have a couple of problems. One or two of the bottles were a little shaken up on the way to the experiment. The temperature and humidity were different on the two days of the experiments, so the mint Mentos versus the other Mentos might not be accurate. Sometimes the Mento got into the measurement and sometimes it didn't.

To improve our experiments we should do something to make sure the bottles didn't get shaken up. We could do both experiments on the same day. We should have made sure all the Mentos got into the measuring cup or none of them did. Of course, we should do the experiments five times instead of three.

We could extend our experiments by using more Mentos.

CONCLUSION

When we mixed sodas with mint Mentos, diet Coke left the least amount of soda in the bottle after the two were mixed and the mixture erupted out of the top.

When we mixed strawberry Mentos with diet Coke, that left the least amount of soda in the bottle after the two were mixed and the mixture erupted out of the bottle.

Most people thought diet Coke would erupt the most and leave the least soda in the bottle and that was correct. Diet Coke erupted out an average of 827 mL, which was more than any other soda.

However, no student thought strawberry Mentos would cause the biggest reaction, so we were totally wrong with that hypothesis. Our hypothesis was that mint would do better, but strawberry did better. Strawberry had an average 1253 mL erupting out and mint had an average of only 1173.

We learned that strawberry Mentos and diet Coke made the best eruption of all. Besides learning that we got the best results from diet Coke and strawberry Mentos, we learned that doing science experiments is fun, especially when you get to blow things up!