

The Coke and Mentos experiment

By Allie Bangerter and *Jacky Morris-Boyce*

Question and Hypothesis

Allie-What type of mento - mint, fruit, gum dropped into diet coke has the highest explosion?

Jacky: *What are the different explosions with different Cokes and mentos?*

Allie-The mint mentos will explode the highest, followed by the fruit and the gum won't explode.

Jacky: *The mint mentos will explode the highest, followed by the fruit.*

Materials and Procedure

Allie-One person sets out a 0.5 liter bottle of diet coke with the cap off. Another person set up a yardstick against a wall that the 0 mark lines up with the top of the bottle. Also set up a camera that will record the bottle and the yardstick. Next put a piece of paper over the bottle. Next make a paper tube the circumference of the rim of the bottle. Line up your paper tube with the rim of the bottle but with the paper in between. Drop 3 mentos into the paper tube and slowly pull the paper so that all three mentos drop in together. Back up. Rewatch the video to see how high on the yardstick it exploded to.

Allie-1 roll of mint mentos holding 14 mentos, 1 roll of fruit mentos holding 14 mentos, 1 pack of sugar free mento gum holding roughly, 50 mento gum, 6 bottles diet coke, phone camera, phone holder, outdoor area, fence, chalk, measuring tape.

Jacky: *Have an assistant hold up a piece of wood marked every foot. Set down a 1 liter bottle of Coke, take off the lid, put 1-3 mentos in the coke and see how high the foam goes using the piece of wood that is marked every foot. Repeat with different soda and mentos.*

Jacky: *two 14 mentos mint rolls, two 14 mentos fruit rolls, generic Coke, name brand Coke, generic diet Coke, name brand diet Coke, piece of wood with a mark for every foot, and my mom's phone camera.*

Data

Type of mentos	Data in inches	Data in feet
fruit	12-18in	1-1 ½ ft
mint	12-18 except when shaken than 36in	1-1 ½ except when shaken 3ft

Type of mento	Data in inches	Data in feet
Sugar free gum mento	3 in	¼ ft
Fruit mento	6 in	½ ft
Mint mento	12 in	1 ft

Variables

Allie: Manipulated: The different types of mentos dropped into the diet coke.

Controlled: The bottles, the enclosure, the amount of coke, the camera, the phone stand, the fence

Measured: How high the diet Coke foam will shoot into the air.

Jacky: Manipulated: I am changing the mentos and the Coke

Controlled: The bottles, the amount of Coke, my mom's phone camera, and the piece of wood

Measured : How high the Coke will explode

Conclusion

So what type of mento – mint, fruit, gum dropped into diet Coke has the highest explosion? The mint mento. My hypothesis was wrong. I was right that the mint would be the highest and that the fruit would be the second highest. I was wrong about the gum mento. I didn't think the gum mento would explode but it did. The data tells me that: The gum mentos explosion is $\frac{1}{2}$ of the fruit explosion, the gum is $\frac{1}{4}$ the mint, the fruit is $\frac{1}{2}$ the mint.

Which Coke and mentos work best together? The answer is mint mentos and generic Coke shaken up. I accidentally shook it up but it worked very well. I was not expecting the shaken up one to make the biggest explosion. But it did. My hypothesis was that the normal Coke and mint mentos alone would be the best. My hypothesis was incorrect.

Allies experiment

Jackys experiment

