

Our Science Fair Coke Rocket

Our scientific word wall					
physical reaction	Eruption	Reaction	nucleation	Carbon dioxide	pressure
Nucleation sites	liquid	microscopic	volume	Excess gas	Experiment

1. Equipment used:

mentos, coke, (we used a volcano made out of plaster paris) and some space just in case it gets messy

2. Procedure:

1. First you get some coke and mentos
2. Then you put 2 mentos in the coke
3. Then hopefully it will erupt

3. Result:

When we put a mento in the coke it fizzed and then all the coke came flowing out because of the chemical reaction between the mentos and the coke.

4. what we learned:

We learned was that the physical reaction between the coke and mentos made it explode

Coke and mentos

How Does This Work?

It's mostly due to a process called nucleation, where the carbon dioxide in the soda is attracted to the Mentos. That creates so much pressure that the soda goes flying.

Making Lots of Bubbles

After a lot of debate, scientists are now saying that the primary cause of Coke & Mentos is a physical reaction, not a chemical reaction. Their explanation is this process called nucleation.

All the carbon dioxide in the soda – all that fizz – is squeezed into the liquid and looking for a way out. It's drawn to any tiny bumps that it can grab onto. Those tiny bumps are called nucleation sites. Nucleation sites can be scratches on a glass, the ridges of your

finger, or even specks of dust – anywhere that there is a high surface area in a very small volume. the gas can grab onto and start forming bubbles. The surface of a Mentos is sprayed with over 40 microscopic layers of liquid sugar. That makes it not only sweet but also covered with lots and lots of nucleation sites. In other words, there are so many microscopic nooks and crannies on the surface of a Mentos that an incredible number of bubbles will form around the Mentos when you drop it into a bottle of soda. Since the Mentos are also heavy enough to sink, they react with the soda all the way to the bottom. The escaping bubbles quickly turn into a raging foam, and the pressure builds dramatically.

All that pressure has got to go somewhere, and before you know it, you've got a big eruption happening!

The Big Question

Now you may be wondering What happens if you take a fizzy drink and then eat Mentos? Well, a lot of the fizz goes away as you drink. Then when bubbles are released in your stomach, your stomach can expand a bit. And your stomach also has ways of releasing excess gas...how??? Scientists have demonstrated that your stomach won't explode, but it still wouldn't be a lot of fun. Do not try this experiment out on your stomach.