SODA FOUNTAIN

Wanna bet you can shoot a geyser of cola ten feet up in the air?

THE SETUP
Setting off a Diet Coke geyser has been all the rage on the internet the past few years. The trick is to deliver ten Mentos Mints all at once to a two-liter, freshly opened bottle of Diet Coke.
Set up your bottle outside on a lawn. Roll up a piece of paper to make a tube slightly larger than the diameter of a Mentos Mint candy (about one inch in diameter). Tape the tube closed. Stack ten candies in the tube, keeping the bottom covered with an index card so that the candies don’t fall out. Place the tube over the open bottle so that you can slide out the card and all the candies will fall into the bottle.

MOVE OUT OF THE WAY FAST!
Almost instantly a fifteen-foot geyser will shoot out of the bottle.
INSIDER INFORMATION
What really happens when the candy hits the soda? Carbon dioxide gas is dissolved in soft drinks. Some of this dissolved gas is released when you open the bottle and the pressure on the solution quickly lowers. The release of the dissolved gas is increased with the introduction of a surface that contains sites that break up the surface tension of water and allow bubbles to form. These are called “nucleation sites” and the surface of a Mentos Mint contains thousands of them. Since the candies sink, introducing a lot of candies all at once gives the carbon dioxide in the soda lots of places to rapidly form bubbles. (Put one Mentos Mint in glass of clear soda and see a laboratory version of nucleation as bubbles stream off the surface of the candy.) The huge rush of gas is enough to forcefully propel an explosion of soda out the narrow mouth of the bottle in a powerful but short-lived spurt. You can do this with regular cola but since it contains sugar, it’s stickier to clean up.

Nucleation sites are not exclusive to Mentos Mints. If you’ve ever made an ice cream float, you’ll see lots of bubbles foaming around the nucleation sites on the ice cream. Add sugar or salt to soda and you’ll see extra bubbles form. The geyser forms because there is a rapid gas build-up forcing the liquid out of a relatively small opening.