

DIET COKE AND MENTOS SUPER FOUNTAINS!



an
Eepy Bird
Production

How To Do It Yourself!

First and Most Important

BE CAREFUL, DON'T LET YOUNG CHILDREN TRY THIS UNSUPERVISED AND WEAR EYE PROTECTION. We love the look of the goggles we wear in the videos, but we actually wear them to protect our eyes as well. You should too. You can get a pair of shop goggles for a couple of bucks at any hardware store. Pick a couple pair up when you're out buying your soda and use them. Besides, they make you look cool.



Goggles: make sure to wear 'em.

Lab coats are optional, but of course stylish.

Soda and Bottle

We've used both name brand and off brand colas and they seem to work equally well. We used Coke in the video because we wanted the iconic look so it was very clear what we were using. Besides, we thought, maybe the Coke people would give us a call and want us to do a commercial for them! (They haven't, but hey, a few months



The classic 2 liter bottle

later they co-sponsored our second video and have been really great to work with ever since, so that's turned out great.)

Use diet rather than regular soda though because without the sugar it's not at all sticky to clean up and without the calories, there's absolutely no food value, so the bugs seem to have no interest. We actually had bees come over, check out the bottles, turn around and go away off in search of real food. We're not saying it doesn't make mess, just that diet soda makes much less of a mess.

You can use pretty much any soda, but cola seems to work just a little better. Be careful of the bottles though. It turns out that the shape of the Coke bottle is a little different than, for example, the shape of the generic cola bottle we used, and while both work, the generic cola was bottled with a little less room above the soda for the Mentos to hang down into. You can use any brand of soda just fine, just be aware that if you do it first with Coke and then try with another brand you might have to do things a little differently.

Temperature

Use WARM (i.e., at least room temperature) soda. **This is key!** It's tempting to take a bottle right out of the refrigerator and use it, but if you do, the results will be disappointing. As with most every reaction, the warmer it is, the better it works. It took us an embarrassingly long time to figure this out.

Some of the highest fountains we've ever shot off were the ones in New York for the Letterman show in late June when we were out setting up for hours on 53d Street in 90 degree weather, and in Phoenix at the Arizona State Fair with the bottles baking in the Arizona desert sun for several hours before we fired them off. Our most disappointing fountains were the ones we tested in March and April here in Maine before we figured out that warmer is better. (Doh!)

Note: We don't like to open the bottles until we're just about ready to set them off, so if you can, get some spare caps from other bottles, drill those spares and make "cartridges" as explained below, then when everything's ready, open the bottles you're going to use and swap the caps for the cartridges you just made. That way less of the CO² escapes. Some of the effects we were most looking forward to in Experiment 137 completely fizzled because (we think) they stood around open too long before we set them off. The rest of the stuff worked so beautifully though the whole thing made us very happy, but just a heads up to keep the bottles closed until you're ready to set them off or you may lose a lot of your oomph.

The "Cartridge"

We prepare the Mentos in 5 mint "cartridges". (We had to come up with a lot of our own terminology after a while since it was pretty early in the process that we were saying things like "We need to take the thing and make a bigger thing on top so that the other thing is stronger and the whole thing goes higher.")

Basically, a cartridge consists of a bottle cap with a hole drilled in it, a length of fishing line threaded through the hole and a number of Mentos threaded onto the fish line hanging below the cap. We put a binder clip on the fish line above the hole to keep the Mentos from falling into the bottle until we're ready.



The cartridge: five Mentos hanging on fish line below the bottle cap

1. Drilling the Caps

This is trickier than it sounds at first because if you hold the cap with one hand and drill with the other, the hand holding the cap is perilously close to the rapidly spinning drill bit. **Do not do this.**

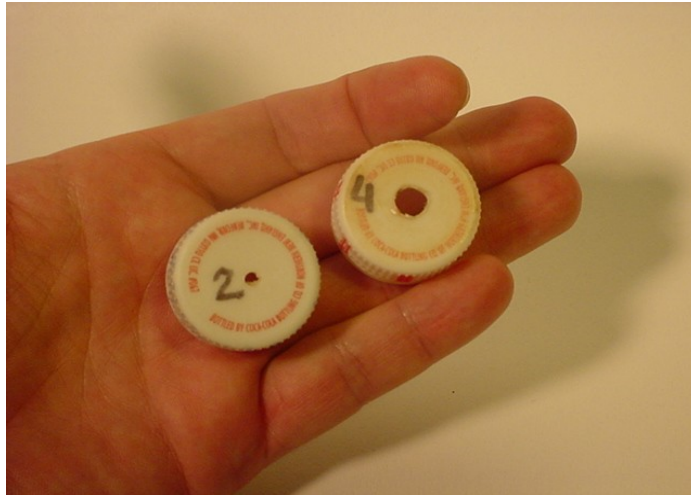
And do not drill a hole through your hand the way Matt did!

The way we do it is to hold the cap with a pair of pliers with one hand and the drill with the other. Much safer. Easier too.

It's easier and faster to drill all the caps first, and then drill all the Mentos.

Hole size

We've tried a bunch of different size holes; 1/8" and 1/4" seem to work best. A 9/16" cap makes for a big, impressive, short blast while the 1/8" and 1/4" holes are less impressive individually, but go a little higher, and last longer, and because they last longer, and are great in combination.



A "2" and a "4" cap from our very first fountains

If you find that you're really getting into this and want to do a lot and want to use different size caps you might do what we did and color code them with a Sharpie.

2. Drilling the Mentos

Drilling the Mentos is even trickier than drilling the caps. They're smaller and have slippery gollum like characteristics sometimes, so use pliers to hold them too when you drill.

We used a 3/64" bit. Other sizes will work too, it just needs to be large enough to fit the fish line through but not so large that it cracks the Mentos. (Some will crack regardless though, so expect it.)

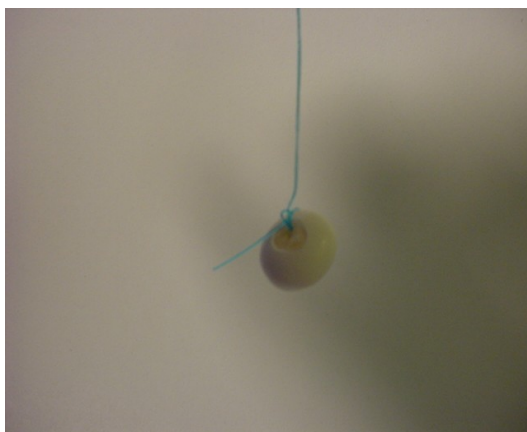
Mentos seem to have one side that is slightly flat and one side that is slightly more rounded. If you put the flatter side up towards the drill, it's easier to get started without the spinning bit sliding off.

Be extra careful here. You may be tempted to ignore our advice and hold the Mentos with your fingers. Don't. If you're going to be making a ten bottle fountain and using 5 Mentos per bottle, you're going to be drilling **fifty** Mentos and that's going to get so tedious and boring that your active mind is going to wander. You don't want your fingers a half inch away from a whirring power drill when that happens. **We repeat: Do not do what Matt did.** Use pliers.

We generally use 5 Mentos per bottle. Each roll has 14. The cheapest way to buy them is to buy them in packs of 6 rolls. The boxes say that they're cheaper, but they're only cheaper than buying individual rolls. The 6 roll packs are the way to go.

3. Threading the Mentos

Cut off about a 5" piece of fishing line, thread a single Mentos (the word "Mentos," like the word "moose" is both singular and plural) onto the line and tie it so that the Mentos is as horizontal as possible.



A single Mentos threaded on fish line

You can then thread the remaining 4 Mentos onto the fishing line and the one you just tied on will keep the rest from sliding off the end.



Five Mentos threaded on a length of fish line

4. Put the Cartridge Together

Next, thread the other end of the fishing line up through the hole in one of the caps you've drilled. Clip the line with a binder clip to keep it from falling off, and you're done.

We recommend keeping the finished cartridges in a waterproof container like a Zip-Loc bag until you're ready to load. Doing all that work, then having to start all over again because you knocked a bottle over or set one off on purpose and accidentally got all your remaining cartridges wet is no fun.

5. Assembling Your Fountain

If you can find a picnic table or something similar it's much easier to work on, and looks much better, than setting up on the ground. Clean up, if you use diet soda, is not bad. Just hose it off and let it dry and that's pretty much it.

We recommend trying one or two single bottles first to get an idea of how it works and then setting up a multi-bottle arrangement for a grander effect. Go for at least five. Then again, why not try ten or twenty? The Bellagio effect is all about the multi-bottles.

Our first ever multi-bottle attempt was Experiment #10, which you can see at our website at <http://www.eepybird.com/exp10.html>. That was ten bottles and it made us very happy.

Lay out your bottles in whatever configuration seems most appealing. If you're setting them off in a particular order, make sure you won't be reaching through a stream of blasting Diet Coke to reach the later sprung bottles.

You can tie strings to the binder clips and release bottles remotely or tie them all on one string and release them all at once too.

If you're ambitious you might try setting a couple of the side bottles at angles propped up by something. For Experiment # 10 we used cinder blocks. Be careful not to tip so much that the Mentos get wet. You might also try drilling a couple of bottles with holes drilled on the sides near the top like we did in Experiment #10 to get multiple streams shooting from a single bottle.

6. Arming the Bottles

Time to put on your eye protection.

Done? Good.

Now comes the tricky part. And the trick is: be gentle.

Open the first bottle. Replace the cap with one of the cartridges and screw it on tight. You'll want to screw the cartridge caps onto the bottles so that the Mentos hang down towards the soda but DON'T touch it. Once they touch, things start to happen.



An armed bottle, ready to fire

Carefully repeat the process with the remaining bottles, being careful not to knock any of the already loaded bottles.

Tip: If you do accidentally set off one of the bottles before you're ready to set them all off, DON'T PANIC. Just point it away from all people and animals, lift it up, carry it away where it won't do any harm, and let it go off. That way you preserve the rest of your set up. You can then replace that one bottle, or re-arrange things so that you don't need it.

If the Mentos touch just a little and start a little foaming action, if you're otherwise ready to go, go. If you're more than 30 seconds away from being ready, carry that foaming bottle off too, set it off separately, and replace it or go without it.

7. Firing!

When you're ready to fire, make sure no people or animals are in the line of fire AND that there's room to move away in case a bottle tips over while it's firing and starts jetting out towards your spectators.

When everything's ready, pull the binder clips and release the Mentos. You get about .5 to .7 seconds before the soda comes shooting out and you have your own mini Diet Coke and Mentos Bellagio!

Take pictures! Take videos! We want to see them! Soon there should be a place to post them at EepyBird.com



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