

EGG IN A BOTTLE EXPERIMENT!



via Sick Science



CAN YOU GET AN EGG INTO A BOTTLE
WITH A SMALL OPENING?

Dr. Nicole Grimes

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EGG IN A BOTTLE

MATERIALS:

- Hard boiled eggs, (peeled)
- 1 small glass bottle or other glass bottle with a mouth smaller than the egg
- Matches or lighter
- Paper strips
- Birthday candles

1. **Boil 2-3 eggs, peel them and leave them nearby.**
2. **Cut a strip of paper 6-8" long and 3/4" wide.**
3. **The paper should be narrow enough to easily fit in the bottle and long enough that it ends below the top of the bottle when placed fully inside.**
4. **Light the piece of paper and drop it into the bottle.**
5. **Quickly place the hard boiled egg on top of the mouth of the bottle.**
6. **Watch it pop inside the bottle!**



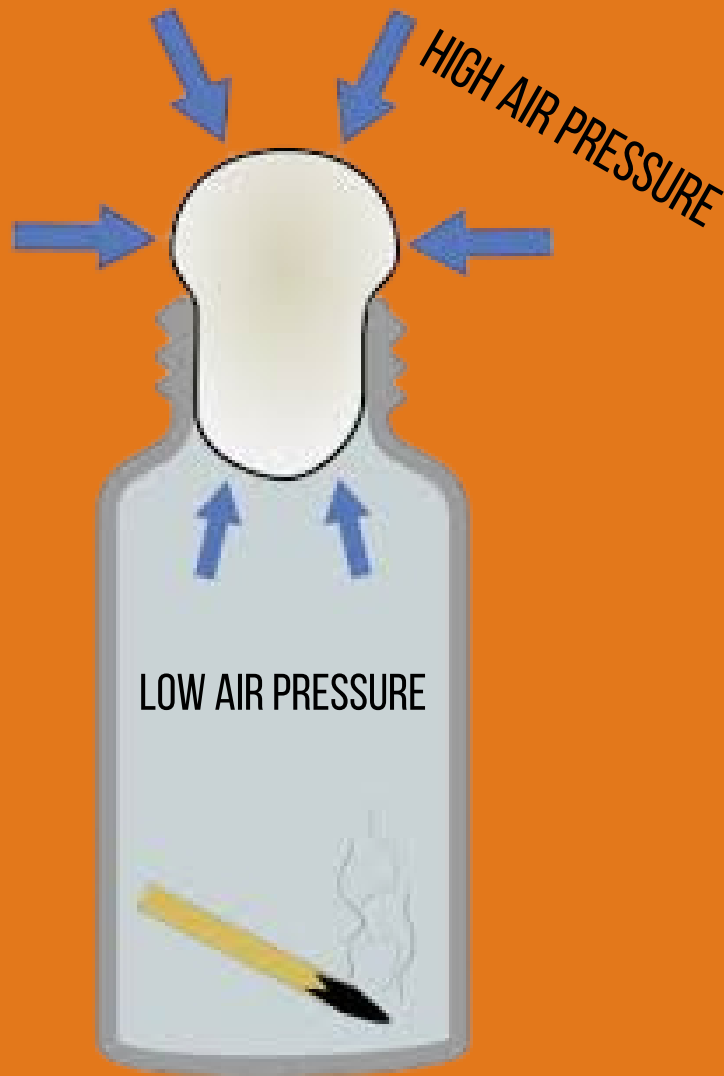
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How does it Work?

So how does it work?

This is a classic science experiment that demonstrates the power of pressure. It looks like the egg is getting sucked into the bottle. There's actually no such thing as "suction." It's just **high pressure** winning over low pressure!



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How does it Work?

So how does it work?

When you start, the air pressure inside the bottle and the air pressure outside the bottle is equal, and the egg can't move. But, as the paper burns inside the bottle, the temperature goes up, causing the pressure to go up.

After you place the egg on the bottle top, it seals the bottle a bit, but still allows the high pressure to force the air out of the bottle. This is why you may get to see the egg do a little jiggle on top. But, when all the air is forced out of the bottle, the burning paper runs out of oxygen and can't burn any more. So the flame goes out. And as you can guess, when the flame goes out, the bottle cooled and the air temperature goes down. And, so does the pressure. Suddenly, the pressure on the outside of the bottle is higher than the pressure on the inside of the bottle. And POP! In goes the egg. Because high pressure won over low pressure and air pushed pushed the egg in the bottle.



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Follow ups!

1. Repeat the experiment using a candle instead.

Stick birthday candles in one end of the egg. Use 2 or 3 small birthday candles and place them in the narrow end of your peeled hard-boiled egg. Make sure they are securely in place, but not pushed in deep enough to make the egg fall apart.



2. How can you get the egg out the bottle?

Think - how can you make the air pressure inside the bottle greater?..

HOW DO I GET
THE EGG OUT??

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