



Egg in a Bottle Experiment

The Egg in a Bottle experiment illustrates the effects of air pressure. Air pressure is manifested in different phenomena, so are its effects.

Egg in a Bottle Experiment, Weird Science for Kids

When it comes to weather, air pressure plays a big role too. Most of the changes in a particular place's weather are governed by air pressure.

In this experiment, you will learn more about air pressure and its behaviour by putting an egg into a bottle and taking it out again without destroying the egg.

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Materials

For the Egg in a Bottle experiment, you will need the following items:

- hard boiled egg
- bottle with an opening narrower than the size of the egg
- match sticks
- newspaper

Procedure

Get an egg and hard boil it. Make sure that you cool it down before proceeding. Seek help from an adult or at least their supervision while you cook the egg. After setting it aside to cool down, start peeling off its shell.

Now, take the newspaper and tear one page into strips. It is recommended that you perform the following procedure with the supervision of an adult. Insert the strips of newspaper into the bottle, and take your match to light it. Drop the lit matchsticks into the bottle so it burns the newspaper strips inside. Quickly take the egg and place it in front of the opening of the bottle. Watch what happens!

And to take it out? Put your mouth on the bottle opening and blow air into the mouth of the bottle. Be aware that the egg will pop right out of the bottle again when you do this!

Discussion

Amazing huh? You just managed to insert a hard-boiled egg into a bottle with a narrower opening and you were even able to take it back out without destroying it! How is this possible? Air pressure is the answer! The experiment just showed you the behaviour of air pressure.

In our Egg in a Bottle experiment, after setting the newspapers on fire with the use of the lit matchsticks, the oxygen in the bottle is used up. When you placed the egg in front of the opening, the air inside creates a vacuum sucking the egg into the bottle.

The burning newspapers heats the air trapped inside the bottle causing it to expand. After a short while, the fire inside the bottle dies, thus causing the air inside to cool down then resulting in a lower pressure inside the bottle. The egg is forced into the bottle because there is a lower pressure inside, and a greater pressure outside the bottle.

Now, after turning the bottle upside down and blowing air into the bottle, the air pressure inside the bottle increases then pushing the egg back out its opening while at the same time keeping it intact!

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