

Welcome to FUNDI @HOME

Fundi Bots is excited to introduce **Fundi @Home!**

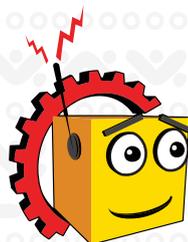
Fundi @Home is a weekly learning journey for you and your child to explore the wonderful world of science using tools and materials that can easily be found around the home.

Every week, we'll share experiments that you can do at home with your child or children and we'll explain the scientific concepts behind what you're seeing.

We encourage you to share the experiments, videos, observations and lessons with fellow parents, other children or students and online via social media channels.

Please use the hashtag **#FundiAtHome** and tag our social media accounts (**@fundibots**) so we can see your awesome experiments and have other people join the discussion!

Thank you, and keep learning!



Fundi Bots
accelerating science learning in africa

EXPERIMENT 01: COCA COLA & MENTOS

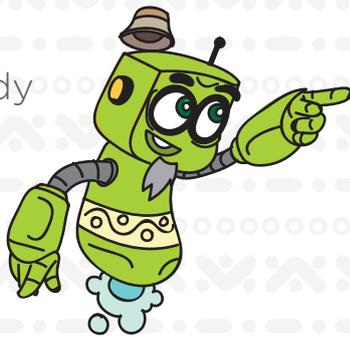
Duration: 30 minutes

Outcomes: Child and parent will be able to explore and understand the concept of *nucleation*.

PART 1: The Experiment

What you need:

- Mentos candy
- Coke soda.



Learning environment

The experiment should be carried out outside the house on a clean table or in a large clear space with no water-sensitive devices and material nearby.

Note: *The experiment will leave the place really messy!*

Question to consider

What do you think would happen if we put Mentos candy in soda?



Instructions

Open the soda bottle and put about seven Mentos in the coke soda. Very quickly take a few steps back but keep your eyes on the soda bottle. What do you observe?

Deductions/ thoughts

Encourage the learner to make deductions based on the experiment

Questions

At this stage, ask your child a few probing questions of your choice to see if what the kid has observed is similar to yours.

EXPERIMENT 01: COCA COLA & MENTOS

PART 2: The Science (Nucleation)

Observation: A jet of soda bursts out of the soda bottle.

Explanation: When soda is being made, a lot of carbon dioxide gas is pumped into the soda bottles. The carbon dioxide adds the pleasant flavour to the soda and is the reason for the sharp tingling sensation when you drink.

Some of the carbon dioxide gas dissolves into the soda and some doesn't. The trapped gas is constantly looking for an escape route out of the bottle. So, it clings onto anything it comes across in the bottle forming tiny air bubbles.

You can dip your finger into a glass containing soda to visualize this further. You will see bubbles forming around your finger.

When Mentos candy is thrown into the soda bottle, the carbon dioxide gas bubbles cling onto the tiny pits on the textured Mentos candy surface. As more carbon dioxide gas accumulates around the candy, the gas becomes more buoyant. It then rushes out of the bottle forcing all the soda in its way to rise as well. This forms a giant geyser that shoots out of the bottle.

So, What is Nucleation

Very simply, nucleation is the process through which matter begins changing from one state to another. In this case, it is the rapid formation of carbon dioxide gas bubbles on and around the thousands of small holes and pits on the surface of the Mentos candy.

Applications: You can use the experiment to compare the level of carbon dioxide pumped into different brands of soda.

Key words: geyser, carbon dioxide, nucleation, bubbles, buoyant, Mentos.

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