



Protocoo – Experimental Activity

School Year 2016/2017

“Coca cola Geiser”

Secondary volcanism consists not only of volcanic eruptions but it is also related to thermal energy from existing magmatic bodies located at a low depth. This type of volcanism is neither so violent no so destructive as the main volcanism.

Here are some examples of secondary volcanism: thermal springs, fumaroles and geisers. They are usually found in regions where there has been recent volcanic activity, which is the case of the Azores.

Let’s simulate a Geiser.

Material:

- 1 litre bottle or 1/2L of coca cola.
- 1 pack of mentos (5).
- 1 sheet of thick paper or a piece of cardboard.
- 1 test tube or a plastic funnel or even a paper funnel.
- A tray or a box.
- Magnifying glasses.

Procedure:

- Place the bottle on the tray and open it,
- Put all the mentos (about 5) into the test tube or funnel,
- If you are using a test tube, cover the opening with the cardboard and turn the test tube upside down,
- If you are using a funnel cover the narrow edge with cardboard,
- Place the tube or funnel over the bottle,
Remove the cardboard promptly, so that the Mentos rapidly enter the bottle,
- Back away and observe the geiser!
- Finally with the help of magnifying glasses observe one of the mentos to understand what happened.

Explanation:

- Coca cola is mostly water and sugar.
- The event is not a chemical reaction! It is a physical phenomenon resulting from the sudden release of carbon dioxide used as gas in the coca cola.
- If we examine the Mentos with magnifying glasses we see that the surface is now particularly rough ... this is where the gas is released, it’s where the gas is formed and the bubbles are released.

The experiment was adapted from: <http://mentesirrequietas.blogspot.pt/2011/06/geiser-cola-mentos-ou-soda-candy.html>