Katia Conrad Krafft (1942 – 1991) was a French volcanologist. She studied physics and geochemistry at the University of Strasbourg and dedicated her life to studying, photographing, and filming erupting volcanoes. In June of 1991, while she was filming the eruptions of Mount Unzen in Japan, a pyroclastic flow, consisting of a cloud of burning gas, rocks, and ash, trapped her and her husband, volcanologist Maurice Krafft, together with more than 30 journalists that covered the event. All those involved passed away.

“Once you have seen an eruption, you cannot live without them”

Explosive Volcanos

With every volcano eruption that occurs, we have renewed interest in these natural phenomena and the critical work carried out by the people who study volcanoes – volcanologists, like Katia Krafft. Katia dedicated her entire life to this work. She and her husband collected and documented innumerable sample materials, leaving more than 300,000 photographs and hours upon hours of video filmed dangerously close to active volcanoes. An important part of her work was outreach – for instance, the Krafft pair worked on the design of informative audiovisual material covering the risks of volcanoes and importance of various alarm or assistive devices. The Katie and Maurice Krafft Award, established in her honor in 2018, is awarded for the development of innovative scientific communication initiatives in the field of geology.

Experiment: Simulate a Volcano with Lava

A volcano is an opening in the surface of the Earth through which materials from the interior of the planet, like gases and molten rock, exit to the outside. In this experiment, you will simulate the rise of volcanic magma to the surface!

What you need

1. A large, clear container
2. Cooking oil
3. Water
4. Food coloring (two separate colors is preferable)
5. Two small glasses that fit in the large container
6. An effervescent tablet, like Alka-Seltzer
7. A kitchen funnel and a rod

Procedure

1. Fill the two small glasses with water and carefully place them in the large container.
2. Then use a funnel to pour the cooking oil into the container – use enough to cover the two glasses with a little more above the glass openings.
3. Pour a few drops of food coloring into each of the glasses (use a different color for each glass, if you have two). Wait until the drops dissolve in the water.
4. To mix the dye better, you can gently stir with a long rod.
5. Everything is already ready for the volcanic eruption! Break one of the tablets in half, placing one half in each container. Record the result in a video – impressive, right?

Challenge: Can you explain the behavior of the volcano and its lava?