



Lesson: Alka-Seltzer Geysers

**Grade Level:** K-12

**Activity Duration:** 30 minutes

**Objectives:**

- Students will understand the basic concepts behind how the Alka-Seltzer geyser works
- Students will be able to loosely apply these concepts to how Yellowstone's geysers works
- Students will understand the difference between geysers and hot springs

**Kit Materials:**

- Film Canisters
- Alka-Seltzer tablets
- Thermal Features diagram

## Lesson Procedure:

1. Pull off the cap off of the film canister.
2. Fill it about halfway with water. You can experiment with just how much water it takes to make the best geyser!
3. Drop in a quarter or a half alka-seltzer tablet and *very quickly* set the cap back on. You may want to practice putting the caps on quickly.
4. Set the canister on the ground or on a pie plate with the cap toward the ground (Actually, try it both ways and see if one direction is better than the other).
5. BE CAREFUL! BACK UP! You would not like to have a film canister shoot into your face! You'll have about 15-20 seconds before it pops.
6. Collect your film canister and do it again!

## What's Happening?

The alka-seltzer releases gas when it is dropped the water. The gas builds up pressure inside the canister, and the cap eventually blows off when the pressure gets too high.

Alka seltzer is actually made up of baking soda and solid vinegar. When you drop it in water, the solid vinegar turns into liquid vinegar, and the classic baking soda/vinegar reaction (e.g. a model volcano) takes place.

## So, How Is This Like a Real Geyser?

Like we mentioned before, a real geyser has three parts: Heat, a Reservoir, and a Plumbing System. In the Alka-Seltzer geyser, we have a Reservoir, the heat is simulated by the tablet, and the pressure build-up from a narrow vent is like having the cap on. It's not as similar to a real geyser as other experiments, but it's still pretty fun!