

Alka-Seltzer Rockets

An Engineering Activity

Many variations of this activity can be done, depending on the age-level of the kids and the amount of time available. Not only is this activity lots of fun, but it allows for the control and testing of many variables. Performance of the rocket can be measured by time-to-launch or height of launch. Using construction paper, the film canister can be “dressed-up” to look more like a real rocket, but this does cut down on its performance.



Materials Needed:

- 35-mm film canisters (with no lip on cap)
- Alka-Seltzer tablets
- Water
- Watch or timer

Safety Considerations:

- It is recommended that safety goggles be worn during this activity.
- Never put your head above the film canister when it is sitting on the ground ready to launch!

Instructions:

1. *Pre-flight:* Take an empty film canister and remove the top. Practice putting the top back on quickly by using your fingers and/or thumbs. It should make a snapping noise when done properly.



2. These experiments can be done indoors or outdoors. It can be somewhat messy, so outdoors on a calm day is a better option. In addition, the canister can go up to 10 meters high!

3. Fill the film canister 1/3 to 1/2 full of water. Place 1/2 of an Alka-Seltzer tablet into the film canister containing the water.



Snap the lid onto the film canister. Place the canister **lid down** on the ground. Take a step back! (Note: if done indoors, placing the “loaded” film canister on a paper towel helps to reduce the mess. In addition, don’t place the “launch pad” directly below a light fixture or fluorescent light bank.)

4. POP! ZOOM! After about 20-30 seconds, there goes the rocket!

5. This is a superb experiment for changing the variables to maximize the performance of the rocket. Below is a sample of a data table which can be used:

Data Sheet for Alka Seltzer Rockets Experiment

Volume of water (1/4? 1/3? 1/2?)	Portion of tablet (1/2 or 1/4)	Temperature of water (warm/cold)	Shake contents of canister?(yes or no)	Time to launch (s)	Estimated height of launch (feet)

Here are a few websites that can give you additional information on making Alka-Seltzer rockets:

<http://www.stevespanglerscience.com/experiment/film-canister-rocket>

<http://www.spacegrant.hawaii.edu/class Acts/AlkaRocket.html>

<http://mpassero.tripod.com/rocket/seltzer/seltzer.htm>

http://www.alkaseltzer.com/as/student_experiment8.html

note: the above website by the makers of Alka-Seltzer also has a series of GREAT chemistry experiments that you can do with Alka-Seltzer tablets.