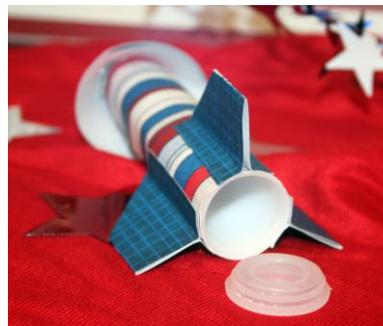


## Classroom Chemistry – Alka-Seltzer Rockets

Demonstrate Newton’s Third Law of Motion (Outdoors Please!)

### Materials:

- Alka-Seltzer tablets
- Crayons, markers or coloured pencils
- Measuring tape
- Index Cards (5x8 in.)
- Tape
- Scissors
- Water
- Empty film canister (ask for these at your local photography shop)



**Procedure:** (Remember to have your parent’s permission and have them watch and help you.)

- Decorate one of the index cards as the body of your rocket.
- Roll the index card into an 8-inch-tall tube. Slide an empty, film canister into the tube so that the canister opens at one end of the tube. Securely tape the paper to the canister. You do not want these two parts to separate.
- Now tape the 8-inch-long seam of the paper tube.
- Cut two triangular, paper fins and tape them onto the rocket.
- What is the function of the rocket fins?
- Make a small paper cone and tape it to the top of the rocket (cut out a circle, make one additional cut from the outside to the centre, use this cut as a slip joint to form the cone and tape into place.)
- What is the function of the nose cone?
- Hold the rocket upside down and add water to the canister to one-quarter full.
- Go outside and add half a tablet of Alka-Seltzer to the film canister and quickly snap on the lid.
- Place the rocket on the ground, lid down. Stand back and count down while you are waiting for the launch.

### What's happening?

Alka-Seltzer contains sodium carbonate and citric acid in solid form which when dissolved in water forms carbon dioxide gas. The gas pressure builds up in the container violently forcing the lid off and shooting the contents out. Since according to Newton’s Third Law, “for every action there is an equal and opposite reaction” the exiting contents pushes the rocket to fly upwards.

### Extension:

Experiment using different amounts of water or Alka-Seltzer to see how it affects the height of the rocket.

This activity is based on our “Classroom Chemistry” kit that is currently under development. The source for this lab is: [http://www.alka-seltzer.com/as/student\\_experiment.html](http://www.alka-seltzer.com/as/student_experiment.html). Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom speaker or allow your business as a field trip location.

Lorne Cooper, Regional Executive Director

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