

ALKA SELTZER ROCKETS



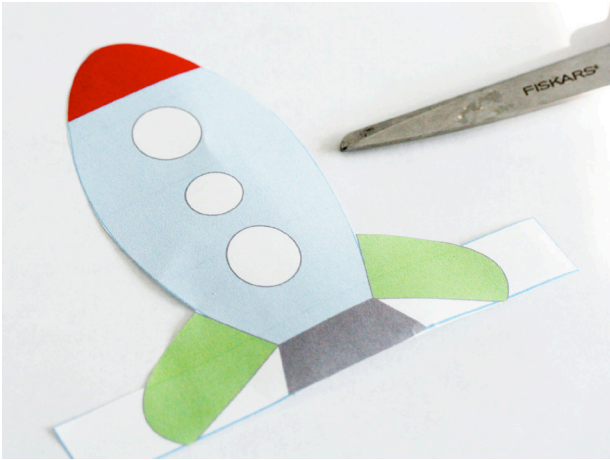
Alka Seltzer rockets might very well be *the* classic science experiment. Incredibly easy to put together and launch, these diminutive rockets are good entertainment with tons of potential for the type of trial and error experimentation that makes an excellent first foray into the field of physics.

A quick note about materials: In the era of digital everything, film canisters like the type used here are increasingly difficult to find. For this reason, science supply and teacher supply shops will often sell canisters just for this type of experiment. We got ours from Steve Spangler Science (www.stevespangler.com).

LAUNCHING ALKA SELTZER ROCKETS

MATERIALS

- film canister with lid that fits inside
- Alka Seltzer tablets
- water
- scissors
- printed rocket template
- tape

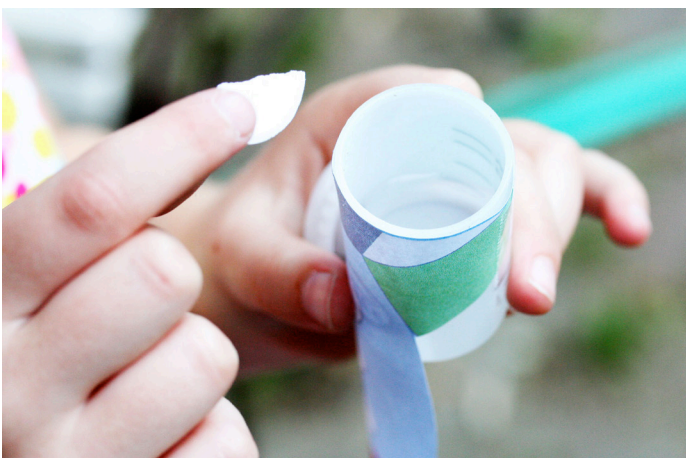


Begin by cutting out the template that follows this tutorial. You can either print the already colored version or print the blank one and decorate your own rocket however you'd like.

Wrap the rectangular tab at the bottom of the rocket around the film canister, lining up the bottom of the tab with the top of the canister. The canister will be upside down inside of the rocket so that when you place it on the ground, the rocket will rest on top of the lid with the lid next to the ground.



Fill the canister about a third of the way up with plain water. Put a $\frac{1}{4}$ to a $\frac{1}{3}$ of an Alka Seltzer tablet into the canister.





Place the lid on the canister, making sure that it is on nice and tight. **Having the lid on as tightly as possible is key to getting your rocket to launch.** Give it a good, hard shake and place the rocket on the ground, with the lid against the ground and the bottom of the canister facing up.

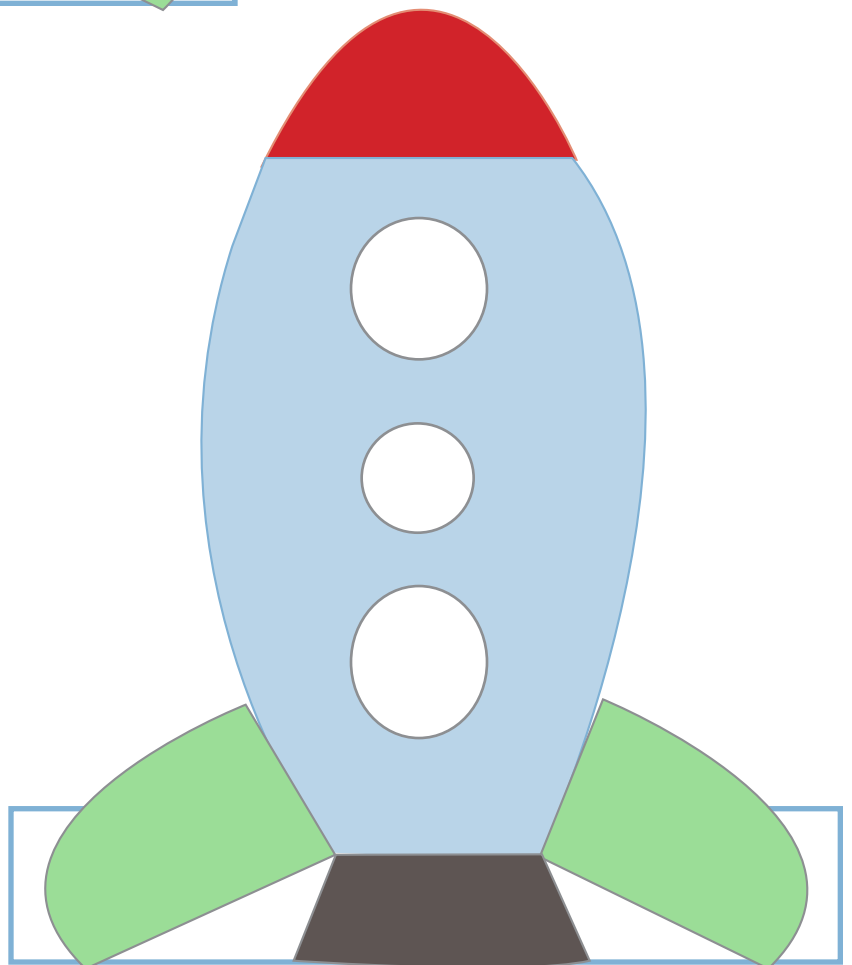
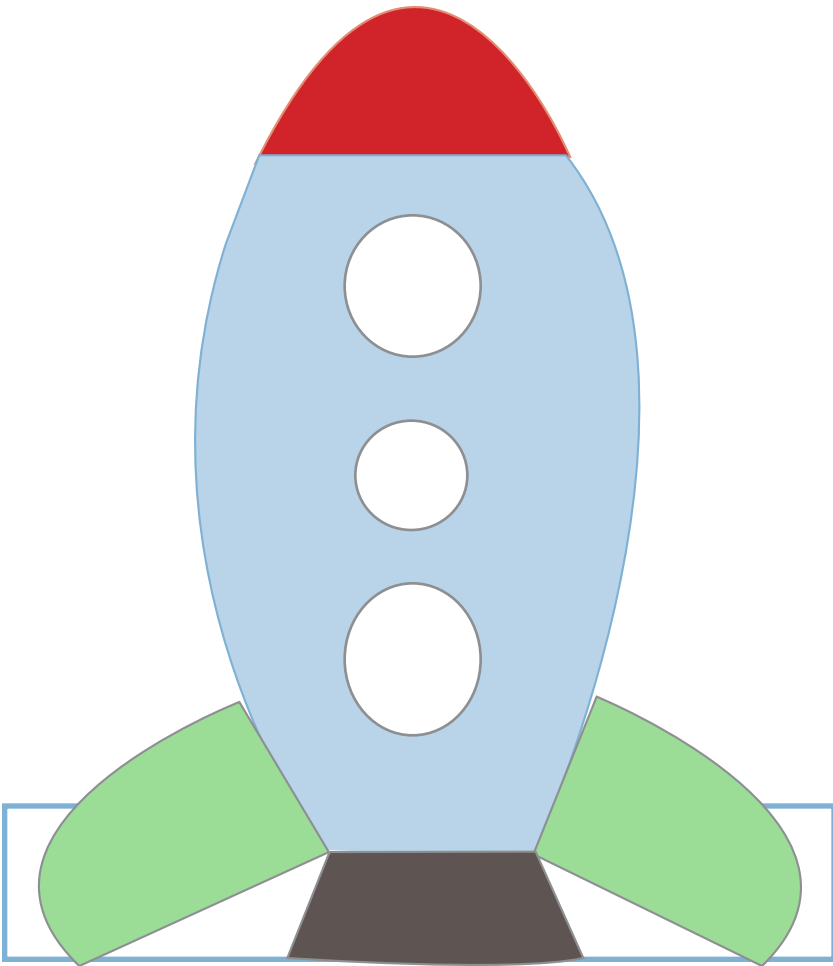
Wait for it... And there- it's gone! The pressure build up inside the canister from the fizzing Alka Seltzer should cause the canister to pop up into the air, taking the rocket with it and leaving the lid behind.

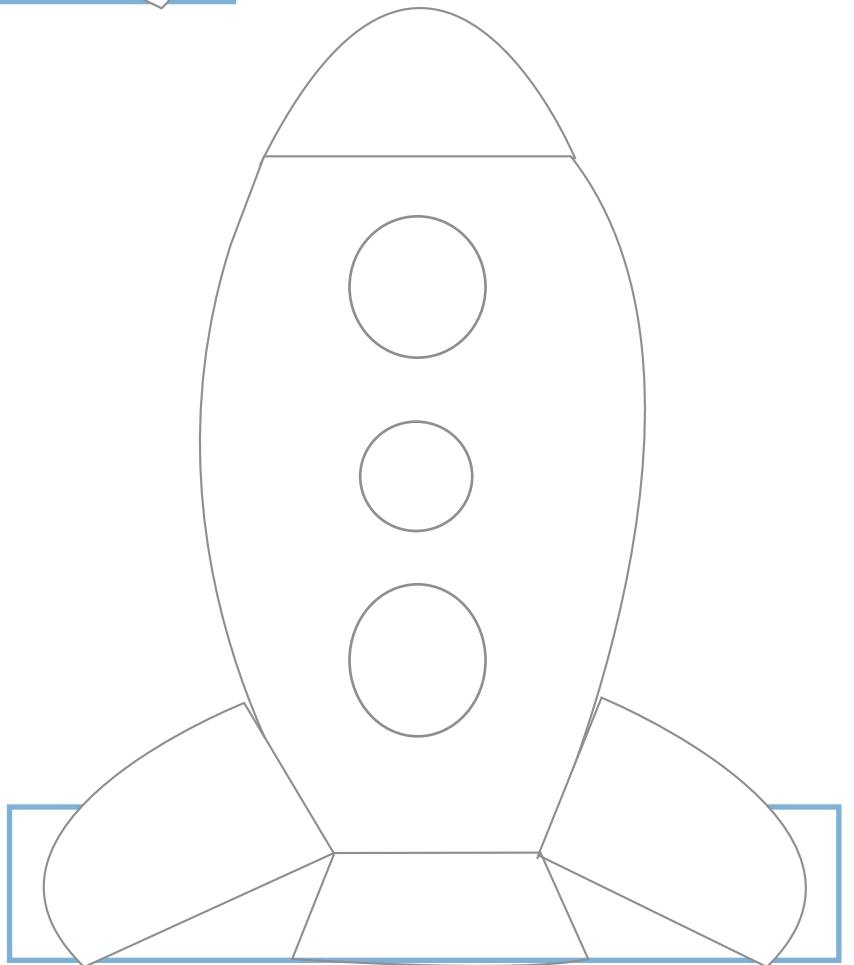
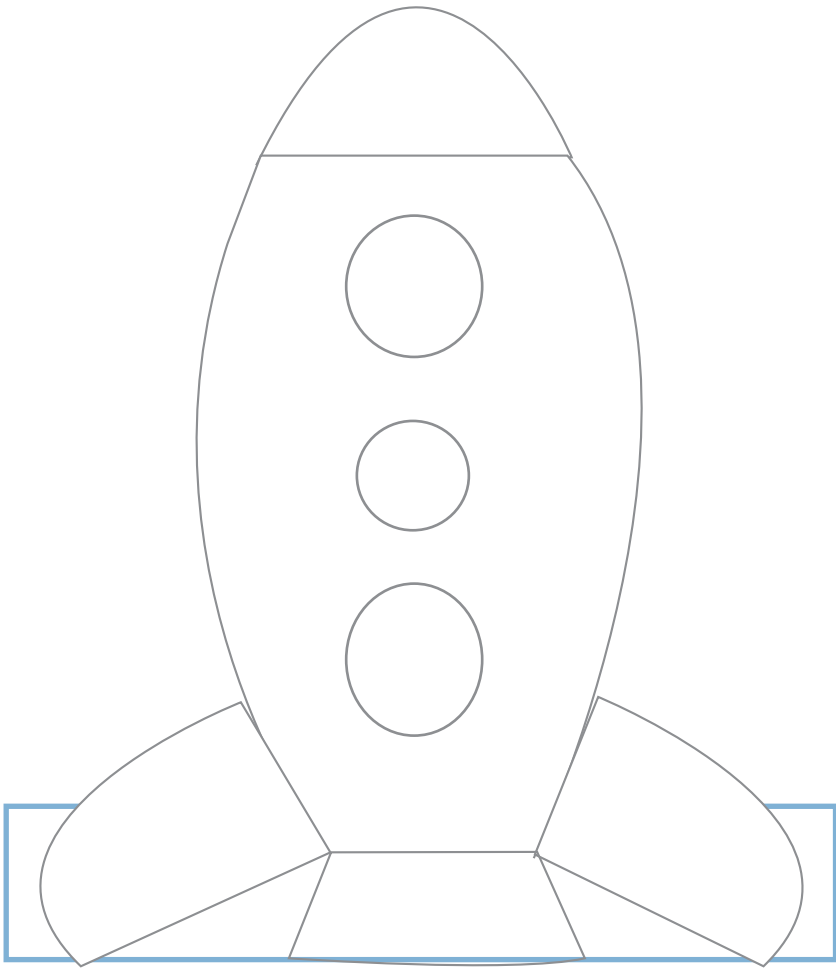
WHAT'S AT WORK: Adding water to the Alka Seltzer causes carbon dioxide bubbles to form inside the canister. If the lid is on tightly enough, the bubbles will build pressure inside the canister to the point that eventually, the pressure will be stronger than the seal on the lid. The pressure will cause the seal to break and as it releases, it will send the rocket up into the air, leaving the lid behind.

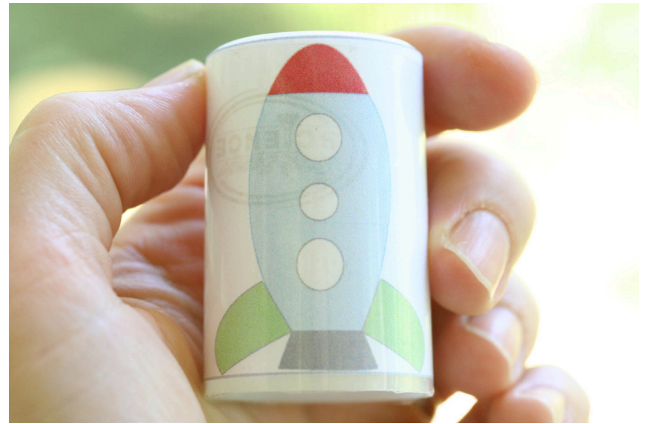
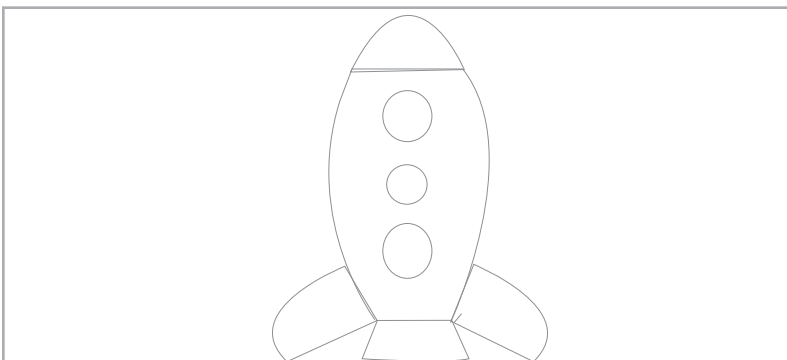
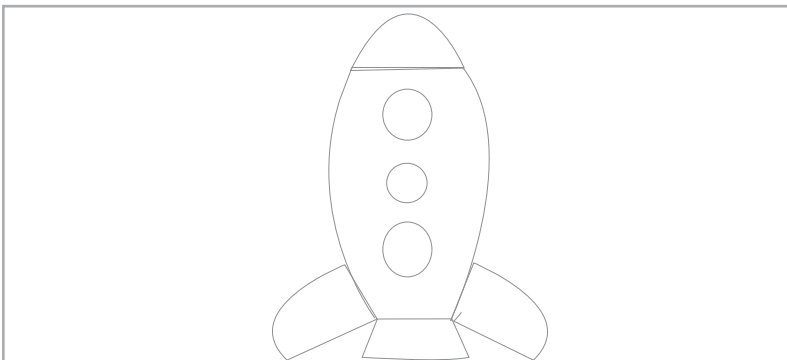
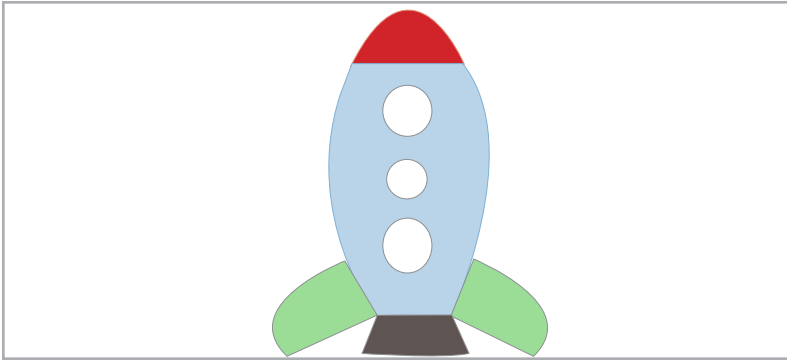
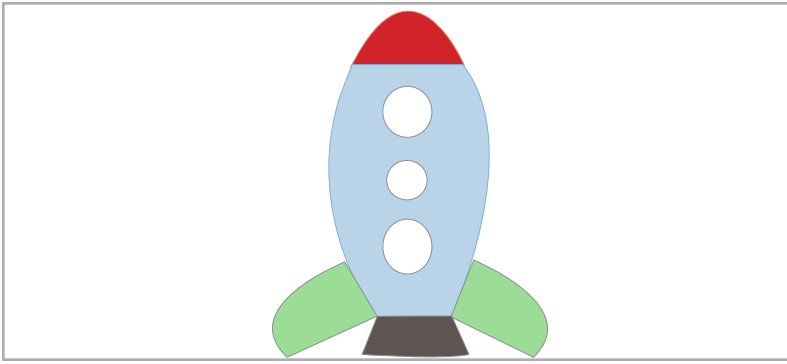


Some variations:

- Try seltzer water, soda or hot water. Do any of these make a difference in rocket height? How do they compare to each other?







Some kids, like my own daughter, might find that they want to launch as many rockets in a row as they possibly can and that the paper of the larger rocket template just gets in the way when you are trying to do this quickly. In that case, try using one of these templates instead. Either decorate a rocket of your own or use a pre-colored one. Cut out the entire rectangle, wrap it around the film canister and then wrap a piece of clear packing tape around the canister on top of that. Snazzy looking and pretty waterproof too.

THE FEATURED READ

MOONSHOT: *THE FLIGHT OF APOLLO 11*

Moonshot: The Flight of Apollo 11 by Brian Floca is a fantastic read about the Apollo 11 mission to the moon, and it makes an excellent companion title for the Alka Seltzer rocket project that follows. The text itself is simple and straightforward, making this book accessible to younger audiences while still being factually accurate. The basic narrative, however, is embellished with both well-drawn diagrams and more in-depth factual information that will help to draw in older or more sophisticated readers. The combination of the pared down narrative with the availability of more information for those who might want it gives *Moonshot* nice potential as a book that can be enjoyed by the whole family before diving in for a backyard rocket launching session. If you'd like further inspiration, try one or more of the books listed below and get deep into thinking about rockets, outer space and man on the moon. (R.L. 7.4, I.L. K-4)

PICTURE BOOKS AND NON-FICTION

Regards to the Man in the Moon by Ezra Jack Keats
(R.L. 2.4, I.L. preK-2)

*Moon Landing:
Apollo 11 40th Anniversary Pop-Up*
by Richard Platt (R.L. 3.1, I.L. PreK-3)

Beyond: A Solar System Voyage by Michael Benson
(R.L. ?, I.L. K-3)

Team Moon by Catherine Thimmesh
(R.L. 7.1, I.L. 5-8)

What the Moon Is Like by Franklyn Mansfield Branley
(R.L. 3.7, I.L. preK-3)

The Moon by Seymour Simon
(R.L. 3.8, I.L. 2-5)

The Moon Book by Gail Gibbons
(R.L. 3.1, I.L. preK-3)

The Rooftop Rocket Party by Roland Chambers
(R.L. ?, I.L. PreK-3)

The Best Book of Spaceships by Graham and Graham
(R.L. 5.4, I.L. preK-2)

Rockets by Ron Miller
(R.L. 8.7, I.L. 8-12)

Curious George and the Rocket by H.A. Rey
(R.L. 2.0, I.L. preK-2)

Mission Control, This is Apollo
by Andrew Chaikin (R.L. 8.0, I.L. 4-8)

CHAPTER BOOKS

The Wonderful Flight to the Mushroom Planet
by Eleanor Cameron
(R.L. 4.9, I.L. 3-5)

The Firebird Rocket (The Hardy Boys)
by Franklin W. Dixon
(R.L. 6.1, I.L. 4-6)