

Rocket School 101

Learn About Air Flow

Construct and test a simple parachute to investigate how changing shape, size, and adding mass affects how it falls through the air.

Tools:

- 1 paper cocktail napkin
- 15 paper clips
- label stickers (1–2 cm in diameter)
- stopwatch, or clock with a second hand

Procedure:

1. Attach a string from each corner of the napkin with a sticker. Tie together the four strings into a loop.
2. Hold the center of the parachute and release it from a designated height. Use a worksheet to record the time aloft and describe how the parachute falls.
3. Add a few paper clips at a time and repeat step 2. Record the information.
4. Using the maximum amount of paper clips the parachute can handle, cut a hole in the center of the parachute. Record the expected outcome of this and the maximum time aloft. Repeat steps two and three.
5. A graph can be created to plot the number of paper clips vs. time.
6. Compare findings with other teams.
7. Discuss how the air flows around the parachute and other findings.

www.rocketcontest.org
(TARC)

<http://education.msfc.nasa.gov/usli>
(USLI)

<http://education.msfc.nasa.gov/sli>
(SLI)



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National Aeronautics and
Space Administration



explore rocketry!



design, build & test!

NASA engineering reviews!

student launch initiative



www.nasa.gov

Explore Educational Rocketry!

Participate in the *Team America Rocketry Challenge*

A national model rocket competition for middle and high school students.

Challenge: Design, build, and fly a model rocket to safely carry a raw egg to an altitude of 850 feet and back, staying aloft for 45 seconds.

www.rocketcontest.org

NASA Student Launch Projects

Student Launch Initiative (SLI)

A high-powered rocket project for middle school and high school students who place in the top 25 of the *Team America Rocketry Challenge*.

<http://education.msfc.nasa.gov/sli>

University Student Launch Initiative (USLI)

A high-powered rocket competition for university-level students held in cooperation with NASA Space Grant and the Exploration Systems and Space Operations Mission Directorates.

<http://education.msfc.nasa.gov/usli>

