



ROCKETS AWAY!

4-H Aerospace Lesson

CONSTRUCT AND TEST FLY A DRINKING STRAW ROCKET

Project Skills:

Building straw rocket models

Life Skills:

Teaching others
WI Academic Standards:
Science C.4. Inquiry

Time:

20-30 minutes

Supplies:

- 6 1" x 2 1/2" adhesive labels (per team)
- 2 Sweetheart (smaller) drinking straws (per team)
- 3 Carnival (larger) milkshake straws (per team)
- Pair of scissors (per team)
- Rockets Away! Flight Chart worksheet
- Roll of masking tape
- Tape measure

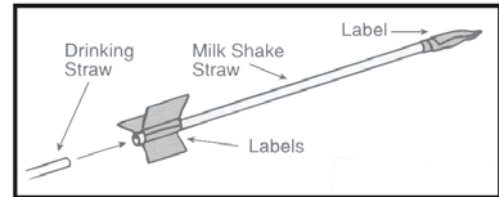
Getting Ready:

- Locate a space that is at least 20 feet long. Use masking tape to mark off a launch line.
- Make a copy of the Flight Chart sheet.
- Make and launch a straw rocket.

WHAT TO DO

Make drinking straw rockets

1. Pair up youth. Give each team the following supplies: six 1" x 2 1/2" adhesive labels, pair of scissors, two drinking straws (launchers), and three milk shake straws (rockets).
2. Have each team work together to make one straw rocket:
 - Cut two labels in half the short way to make four 1" x 1 1/4" labels.
 - Wrap one label around the end of the larger milk shake straw; seal completely to make a rocket nose cone.
 - Attach both ends of the three remaining labels at the opposite end of the same straw. Stick the adhesive together and crease to make three rocket fins. Add team initials to fins.
 - Test fire the rocket by inserting a drinking straw inside of the larger milk shake straw rocket. Aim the rocket into the air, away from anyone else and launch by blowing hard.
3. Emphasize health and safety issues by telling youth to discard their smaller straws after using them and only launch rockets in an orderly fashion at the official launch line one at a time.



Teach others how to make a straw rocket

1. Ask individuals to practice teaching each other how to make a drinking straw rocket. Encourage youth to teach in a way that lets others learn by doing before being told or shown how. Make sure everyone has a chance to be in a teaching role with another person.
2. For each flight round, experiment with each straw rocket by changing the fins. Use larger labels, different numbers of fins, or cut, bend or twist the fins.

Conduct a Rocket Blast-Off Contest

1. Have youth stand behind the launch line and launch their rocket.
2. Use the Flight Chart sheet to record the length of each rocket flight. Measure from launch line to exact point where rockets hit the ground.
3. Announce distance for each rocket's flight. Congratulate the winning team.

TALK IT OVER

Try to get each youth to express his or her feelings and experiences.

Reflect:

- What happened when you made changes to the fins of your rocket?
- How did these changes affect your straw rocket's flight?

Apply:

- Do you like teaching or learning better? Why?
- What do you like others to do when they are teaching you something new?
- Next time you are teaching a friend something new, how would you go about it?



Flight Chart

ROCKETS AWAY!

	1st Flight	2nd Flight	3rd Flight	4th Flight	5th Flight
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance
Name:	Distance	Distance	Distance	Distance	Distance

University of Wisconsin-Extension, U.S. Department of Agriculture and Wisconsin counties cooperating. UW-Extension provides equal opportunities in employment and programming, including Title IX and ADA.

Issued in furtherance of Cooperative Extension work, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Carl O'Connor, Director, Cooperative Extension, University of Wisconsin Extension, Madison, WI 53706. Copyright 2002 Board of Regents of the University of Wisconsin System, Division of Cooperative Extension of the University of Wisconsin-Extension.

If you need this material in another format, please contact the Department of 4-H Youth Development, University of Wisconsin-Extension, 436 Lowell Hall, 610 Langdon St., Madison, WI 53703; phone 608-262-1067. Visit Wisconsin 4-H Youth Development on the Web at <http://www.uwex.edu/ces/4h/>. This information is produced by the Department of 4-H Youth Development and is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by the Cooperative Extension or bias against those not mentioned.

