

A STEM in the Park

Take Home Activity

STEM

in the **PARK**™

Science, Technology, Engineering, and Mathematics

Build a Foam Rocket

What To Do

1. Get a foam tube.
2. Cut 12 cm strip of duct tape. Cut it in half lengthwise.
3. Place the rubber band about halfway on top of one strip of duct tape.
4. Place the other strip over the top of it.
5. Tape the rubber band launcher to the top of the tube (where there is no slits).
6. Add tape around the nose to strengthen the attachment.
7. Get to fins and slide them together.
8. Slide the fins into the slits.
9. Close the fin slits with a narrow strip of tape.
10. Place your finger in the loop of the rubber band and pull back on the rocket to launch it.



Continued on back

Investigate

Practice launching your rocket.

Launching at the same angle, vary the distance of your stretch on the rubber band. What do you observe about the distance the rocket travels?

Vary the angle of the launch, keeping the stretch of the rubber band the same. What do you observe about the distance the rocket travels?

Background

The foam rocket receives its thrust from the force produced by the stretched rubber band. When the rocket is released, the rubber band returns to its original length and launches the foam rocket into the air.

The more you stretch the rubber band, the greater the distance your rocket will travel. Your rocket will travel the greatest distance, if launched at a 45° angle.

The foam rocket demonstrated Newton's Third Law of Motion. The contraction of the rubber band produces an action force that propels the rocket forward while exerting an opposite and equal force on the launcher, your finger.

This activity is brought to you by the Challenger Learning Center of Lake Erie West sponsored by the ESC of Lake Erie West

