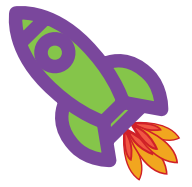




BLAST into SUMMER



JUICE POUCH “STOMP ROCKET”

What is Force and Motion?

A force is a push or pull. Forces can make objects move, change direction, slow down, or come to a complete stop.

Gravity is a force that pulls things toward Earth’s center, and it’s the science behind **WHY** objects fall to the ground.

Forces work in pairs. For every action, there is an equal and opposite reaction. This is often seen when you let an untied balloon go or watch a rocket take off. You can feel this when the brakes are applied in a car and your body **MOVES** forward.

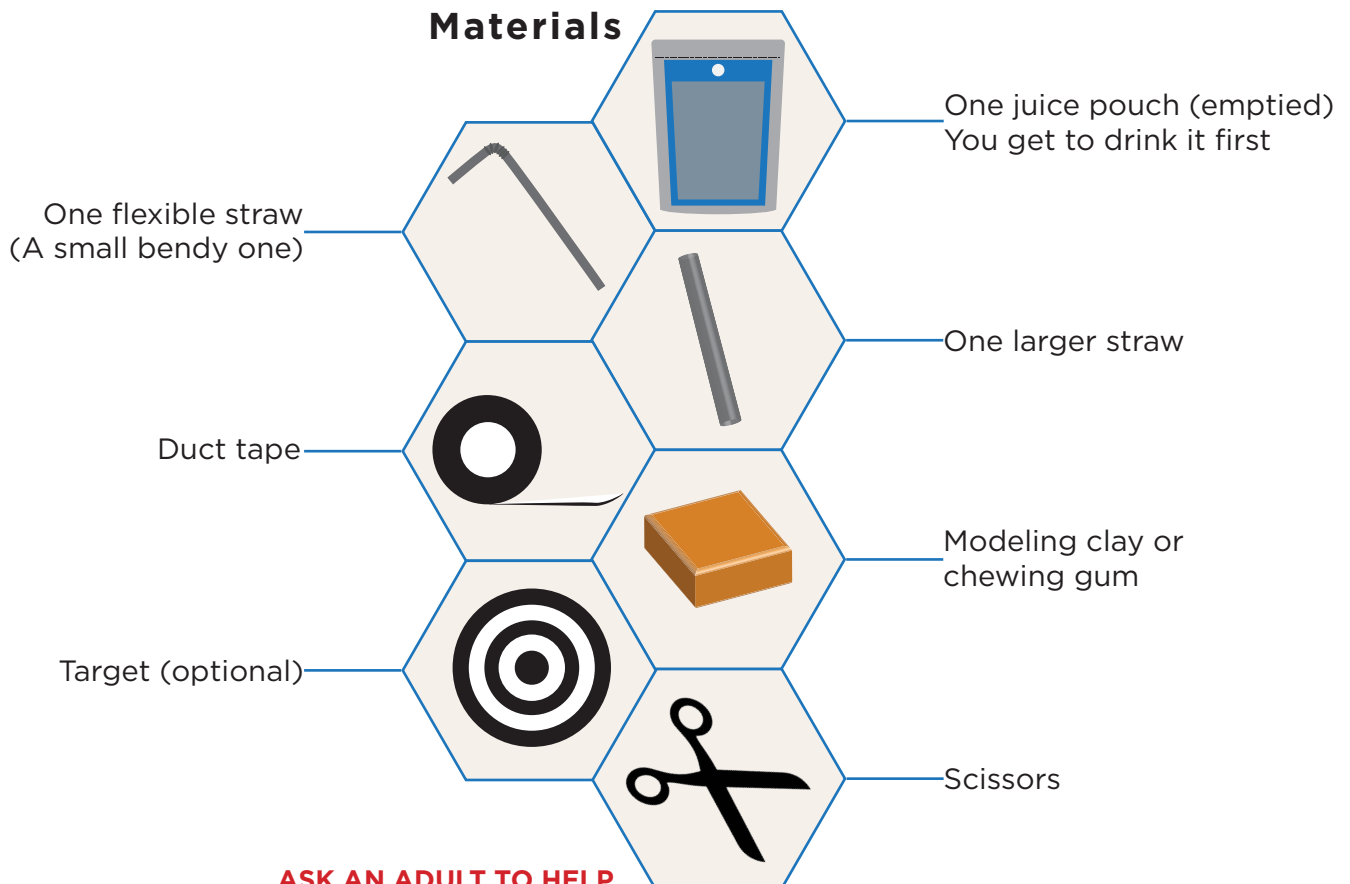
In this activity, you will use the force of the stomp to set the rocket in motion. Have fun learning and exploring about force and motion!



The Experiment

LET your imagination take flight. Explore how the force of a stomp can push the air out of the pouch and puts an object in motion. Using what you know about forces such as a push, pull, and gravity, you will design a stomp rocket out of a juice pouch. See how far you can make your rocket fly!

Materials



ASK AN ADULT TO HELP

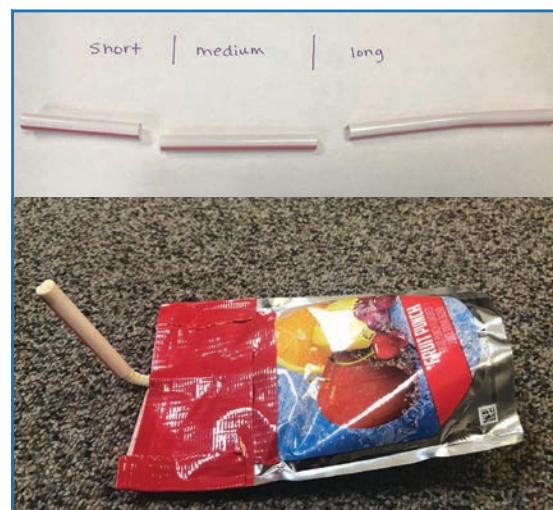
Building the Launcher and Rocket

Step 1	Drink the juice or squeeze all of it out of the pouch. Rinse the pouch out if you want to. Make sure there is no liquid left in the container. Throw the straw away.
Step 2	Cut the flexible straw in half so that it fits into the juice pouch better. NOTE: You may need to make the hole a little larger so the straw inserts into the pouch easier. *** (ASK AN ADULT TO HELP) ***
Step 3	Insert the flexible straw into the juice pouch so that the straw is bending upwards.
Step 4	Tape the straw securely in place. BE CAREFUL NOT TO BLOCK THE AIR FLOW. Put tape on both sides of the juice pouch.
Step 5	Cut a short, medium, and long piece from the larger straw. Choose which piece you want to use first. This becomes the rocket.
Step 6	Place modeling clay or chewed gum at one end of the straw. Make sure that it is air tight.
Step 7	Blow air into the juice pouch.
Step 8	Place the “rocket” onto the launcher straw.
Step 9	Stomp on the juice pouch and see how far you can make your rocket fly!
Step 10	Repeat steps 7-9 changing the length of the rocket straw and how much air you blow into the pouch.

Dinner Talk

Talk with your family, siblings, friends, etc about this experiment.

- What was the coolest part of the experiment? Why?
- Which rocket traveled the longest distance? The shortest?
- Why do you think this one traveled the farthest?
- Did you change the amount of air you blew into the pouch?
If so, did the rockets go farther with more air or less air?
Why do you think this is?
- What happens if the flexible straw is pointing straight up?
- What happens when you flatten the pouch out?
- What happens if you stomp as hard as you can?
- What can you do to make the rocket travel a shorter distance?



Extra Enrichment

Place a target in a desired location and see if you can get the rocket to land there.

Write about it using this sentence starter: Today I built a rocket launcher and....

Draw a picture of a rocket and hang it up.

Visit

Pushing and Pulling worksheet - <http://bit.ly/2lweVOC>

Pushing and Pulling worksheet, 2nd grade - <http://bit.ly/2zJJihp>



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