



Straw Rocket and Bottle Launcher

Meet Dana. She works at NASA! Engineering is an important part of space travel. Today, we're going to design and build our own mini rocket ships using items you probably have right in your home.

"I've always been obsessed with the planets, the solar systems, the galaxies, and beyond. There's so much out there we don't even know about yet - that's right! My space agency is the best place to work because not only does it explore space, but also helps people on earth."

- DANA BOLLES



MATERIALS:

- Squeezeable water bottle or empty squeezeable condiment bottle
- Straw
- Modeling clay or electrical tape
- Scissors
- Tape
- Paper
- Crayons, markers, or other art supplies to decorate your rockets

INSTRUCTIONS:

Important: Have your teacher or grown up help you with any cutting, snipping, or slicing.

1. Open your squeeze bottle and insert a narrow straw into the top (if it doesn't fit, you can have your grown up punch or poke a hole in the lid of a bottle). Create a seal around the straw with modeling clay or electrical tape.



Straw Rocket and Bottle Launcher Continued

2. Wrap a small piece of paper around the top half of your straw to make a tube shape. Tape the tube so it keeps its shape, but do not tape it onto the straw. Make sure there's a little room for the straw to slide in and out of the paper.



3. Fold the top of the paper tube and tape it so that it lays flat and no air can escape.



4. Think about what a rocket ship looks like. Draw and decorate your paper tube and launcher. It can look however you want!



5. Find an empty space to test out your rocket. Squeeze the bottle and watch it take flight!

6. Try making the nose of your rocket into a cone shape. Does this change how your rocket flies? Try adding fins to the end of the rocket. How does this impact it's flight? Keep adjusting your design to see how you can improve it!

Safety note: *never launch your rocket toward another person.*

