

Chemistry Rocket

TAILS AND TALES

15-minute STEAM
2021 Summer Reading

Supplies:

16oz Empty water bottle
1 tbs baking soda

Duct tape or other strong tape
8 oz Vinegar
Cork Stopper

3 unsharpened pencils
1 square of toilet paper

1. Cut about 12" (30 cm) of the strong tape from the roll. Duct tape is probably the best choice but you can use electrical or heavy masking tape as well.
2. The pencils will be the legs of the rocket. Stick one end of the tape to the middle of the bottle but don't wrap it around the bottle, yet. Hold one pencil onto the bottle so about 2" (5 cm) of it extends beyond the opening of the bottle and keep it in place with the tape. The pencils need to be equidistant from each other around the bottle and extend past the opening the same distance.

Wrap the tape over the second pencil and then the third.

Make sure the rocket is stable and points straight up on its three pencil legs

3. Turn the bottle right side up and pour in some vinegar. You want the bottle to be about half-full.
4. Grab a single square of toilet paper from the roll. If there are multiple layers in the towel, separate them so you have just one thin layer. Keep the other layer(s) for upcoming launches.
5. Scoop a heaping tablespoon of baking soda and dump it into the center of the square of toilet paper.
6. Fold and wrap the toilet paper around the baking soda so it's a snug bundle but don't tear the toilet paper if you can help it. The bundle needs to be small enough to fit through the opening of the bottle so shape it like a miniature hot dog. Try to fold over 1 end and place a small piece of tape on it. Grab the bottle, the bundle of baking soda, the cork stopper, and take it all outside. **DON'T do the next step inside.**
7. Outside where you can make a mess safely and clean it up with a hose, you need to think about how to do the next four steps kind of all at once to achieve a successful launch. You need to:

- Push the toilet paper-wrapped baking soda into the bottle (tape end first)
- Put the cork in the opening of the bottle & give it 1/4 twist to slightly tighten it
- Set the rocket upright on the pencils
- Stand back!

