Baking Soda Vinegar Rocket

Materials:

- Water bottle
- Cork
- Baking soda
- Vinegar

This activity should be completed outside with no overhead structure (rockets can fly 10-20 ft high), and the reaction may cause a little spray. Safety goggles or other eye covering (sunglasses, etc.) are highly recommended!

Instructions:

1. Pour about 1 inch of vinegar in the bottom of the bottle.
2. Measure out about a teaspoon of baking soda.
3. Very quickly:
    a. Add the baking soda to the bottle.
    b. Put the cork in the bottle (it should fit tightly, but not too tight).
    c. Place your bottle upright on a flat surface.
4. Back up at least 5 feet and wait (this reaction happens quickly).
5. If you place your bottle upright, the reaction will send your cork into the air
   If you want to send your water bottle into the air (and make a bigger mess!), it is easiest to have a tapered cork with a wider base so the bottle is less likely to fall over. You can find tapered corks at craft stores.

How high did it go?

Experiment with varying amounts of baking soda and vinegar. Can you create a time-release mechanism for the baking soda so you have more time to set up the bottle before the reaction takes place?

If your rocket does not launch, make sure your cork is pressed tightly into the water bottle opening and no air is escaping.

