Title:

Engineering Challenge

July 20, 2022

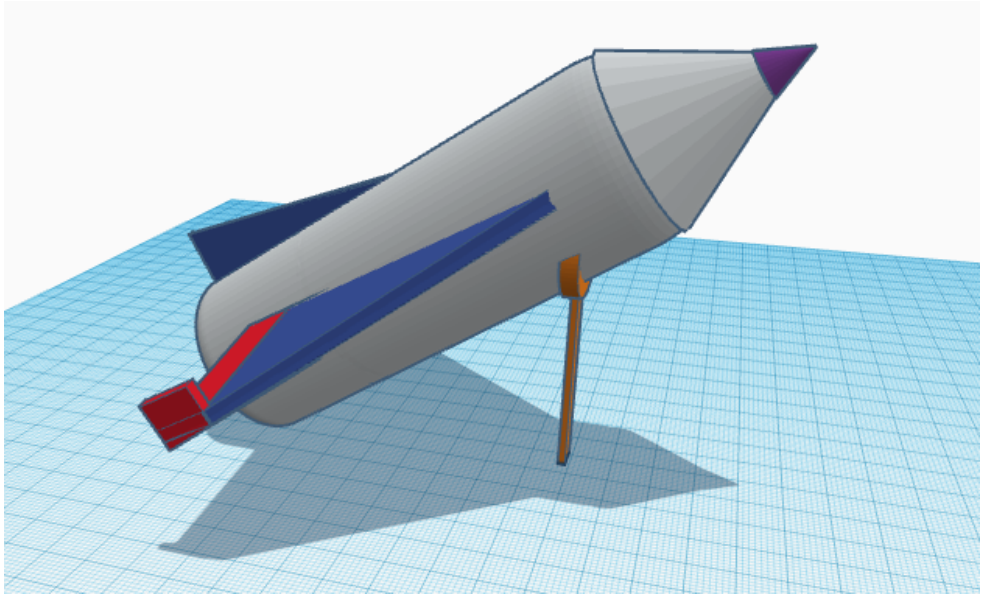
Problem Statement: Write the problem statement in your own words and interpretation. What are you trying to achieve? What is being learned through this challenge?

Using a 2-liter plastic bottle and common materials, design and build a water bottle rocket to be launched at its maximum possible distance. We learned about aerospace engineering through this challenge.

Materials: List the materials given (if any).

- **2-liter plastic bottle**
- **cardboard**
- **construction paper**
- **hot glue gun**
- **duct tape**
- **flexible wood sticks**

Approach: Write a description of your plan to achieve the goal of the problem statement. Add drawings/sketches/CADs if possible.



- **plastic bottle body**
- **wood framing and construction paper for the side wings**

- **construction paper for the top cone**
- **cardboard for the top wing**
- **duct tape and hot glue to hold it all together**

Solution: What is your solution to the given problem?

- attach top cone for smoother aerodynamics
- side wings for stabilization and gliding
- top wing for further stabilization

Analysis: After testing, did it achieve your goal? Either way, what could you have done better? If given more time/materials, what would you do differently?

No. If given more time, we could have tested a bit more, and maybe use extra materials to make the rocket sturdier.

Images: