

Welcome to Rocket Research 102

Stability

Wind Tunnel: NOSE CONE

Yes our rocket is missing a nose cone.

The nose cone is simply a cone glued to the flat bottom of our original rocket. OK, so it's not a designer nose cone, but it works. It does add some weight to the top of the water rocket. So the **center of gravity** (CG), or balance point, will move a little bit towards the top of the rocket. The water, however, is still the heaviest component.

-- Open the Wind Tunnel --

Select the "**Start**" button on the wind tunnel page.

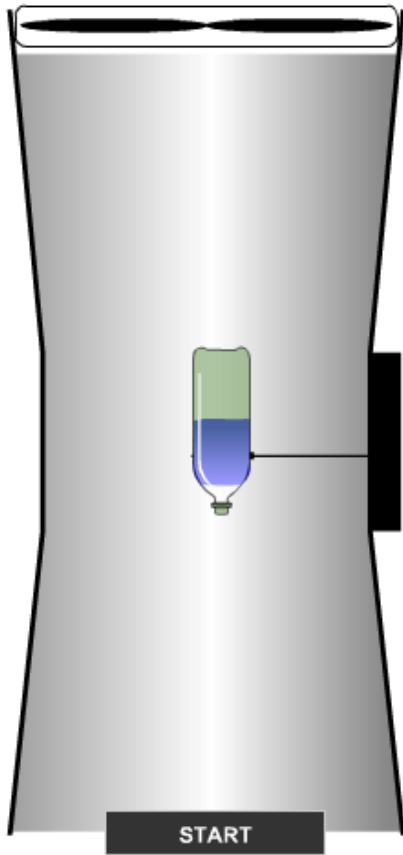
What happened when you added the nose cone?

- a) It helped to stabilize the rocket.
- b) Nothing happened--it was still unstable.

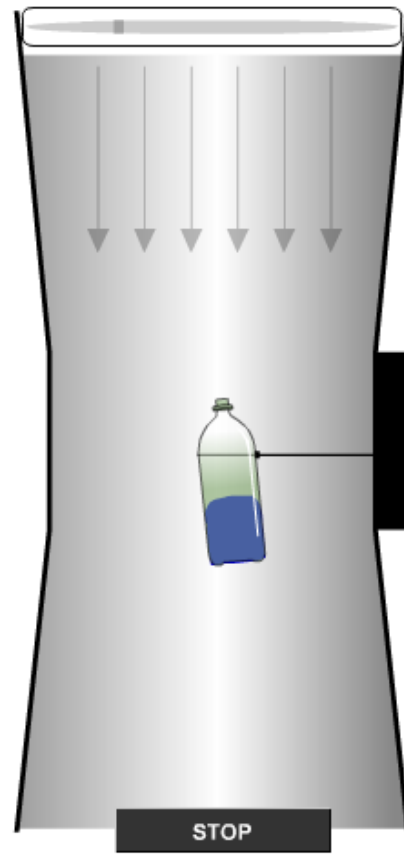


View the next page below to determine the answer

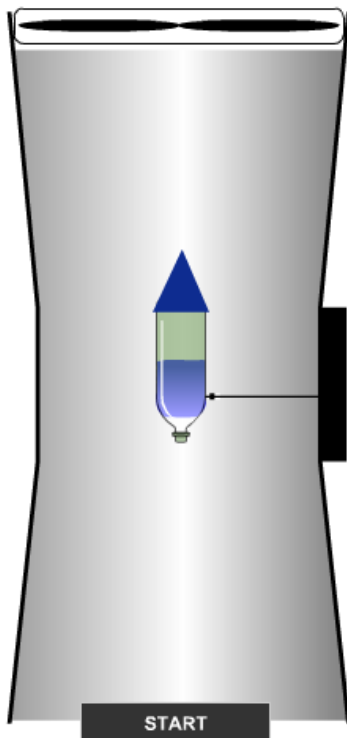
Our Wind Tunnel



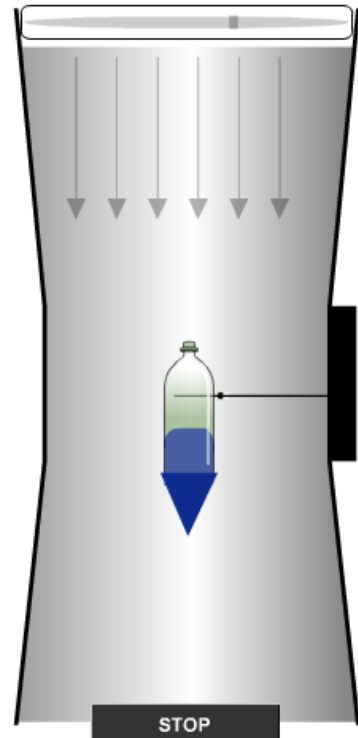
Our Wind Tunnel



Our Wind Tunnel



Our Wind Tunnel



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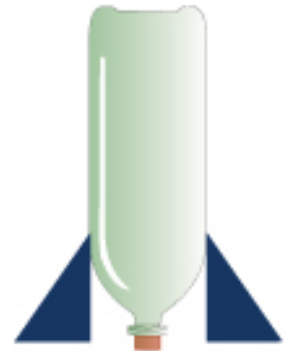
Stability

Wind Tunnel: FINS

Our bottle is missing fins! Before you add fins, you have to decide Where to put them. There are some choices of position in the wind tunnel. Try out as many as you can.

>> Open the Wind Tunnel <<

and select the fin position, size of fin, and then "Start" button on the wind tunnel page.

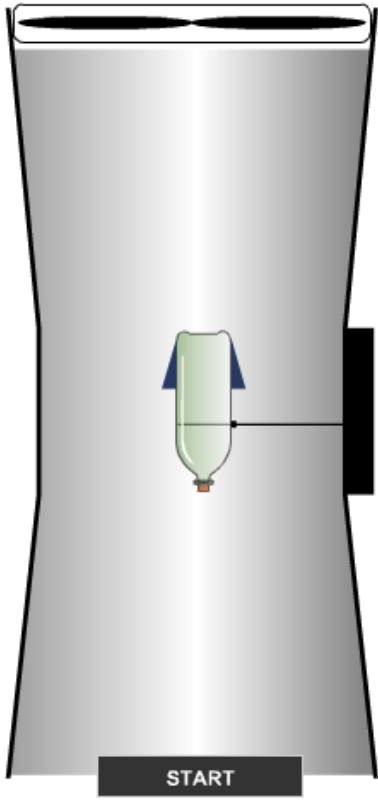


What is the best fin configuration?

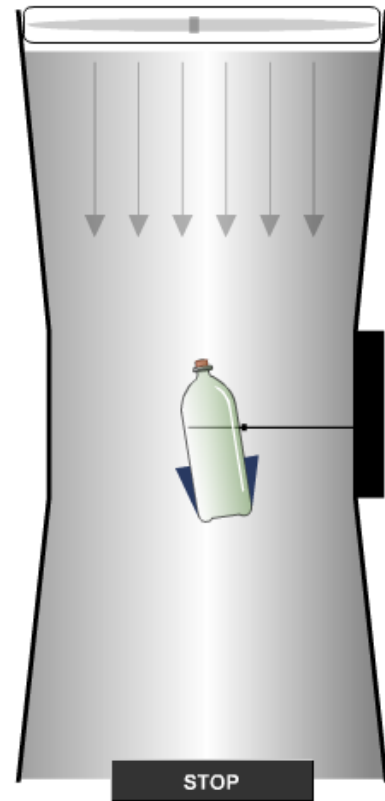
- a) Small fins, top of the rocket
- b) Small fins, middle of the rocket
- c) Small fins, bottom of the rocket
- d) Large fins, top of the rocket
- e) Large fins, middle of the rocket
- f) Large fins, bottom of the rocket

View the following pages below to determine the answer

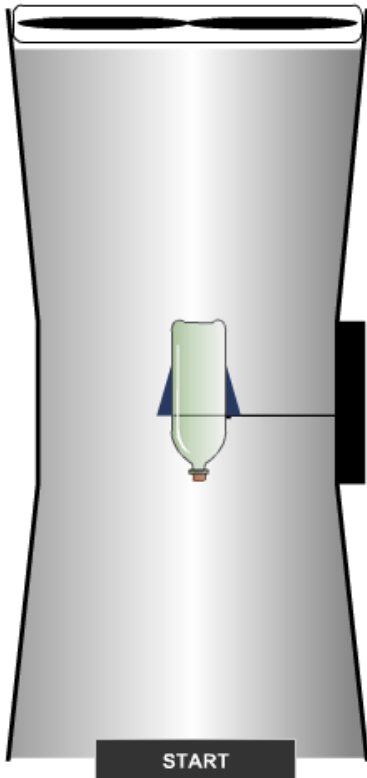
Our Wind Tunnel



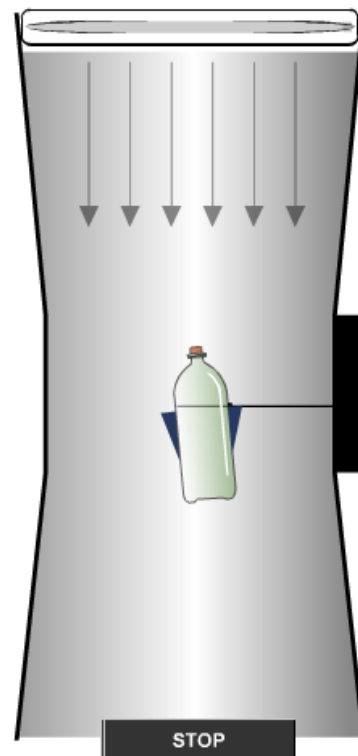
Our Wind Tunnel



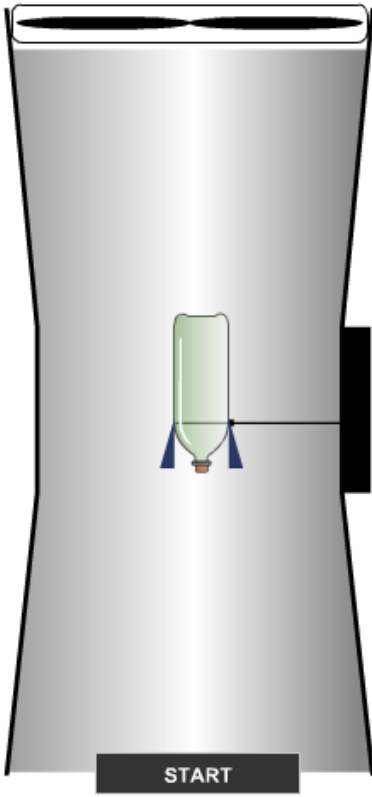
Our Wind Tunnel



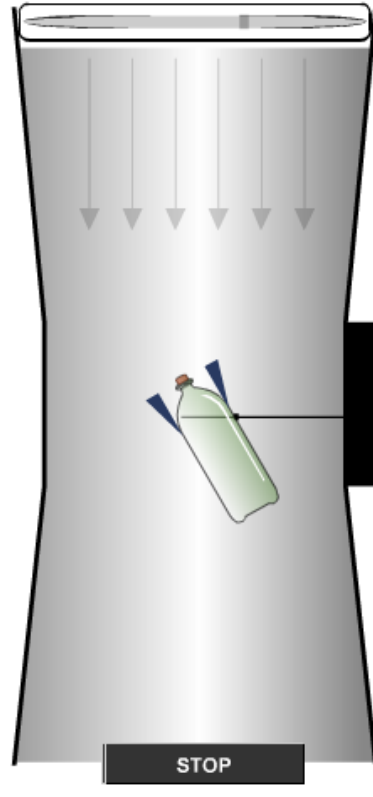
Our Wind Tunnel



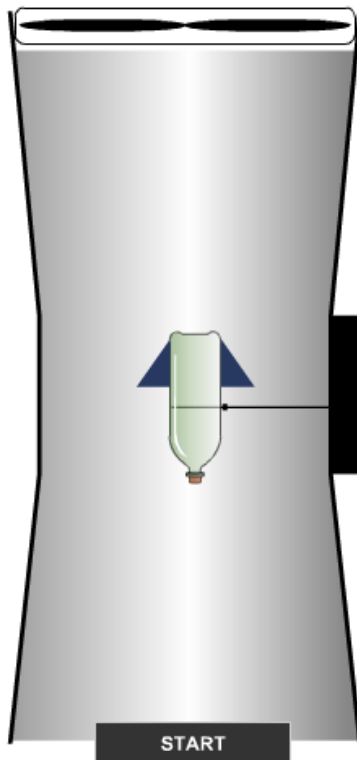
Our Wind Tunnel



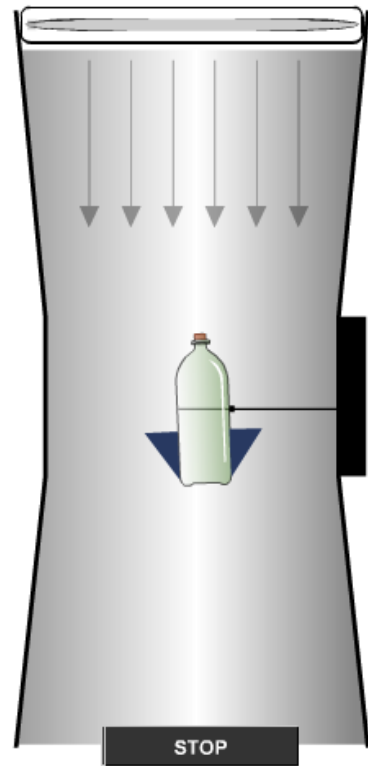
Our Wind Tunnel



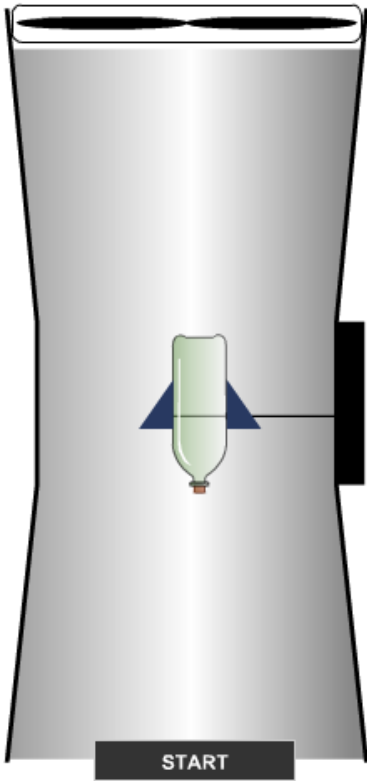
Our Wind Tunnel



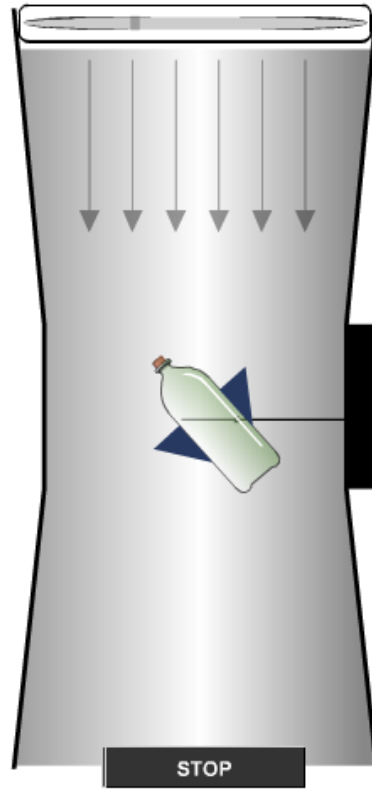
Our Wind Tunnel



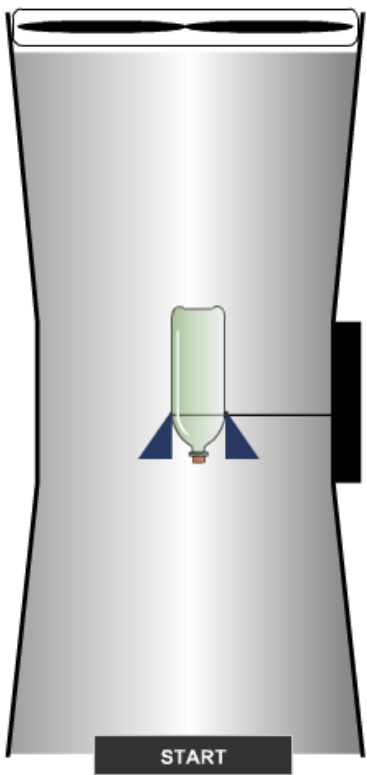
Our Wind Tunnel



Our Wind Tunnel



Our Wind Tunnel



Our Wind Tunnel

