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About Rockets

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## START YOUR JOURNEY

### Welcome to Rocket Research 102

#### Stability

The forces on a bottle rocket are the same as the forces on a real full-scale rocket during the early portion of its flight. Aerodynamic forces provide stability for the bottle rocket, while on-board guidance systems control a real rocket.

What would happen if you filled a 2 liter bottle with water and launched it?

**We can try this without getting wet!**

We will use a **wind tunnel** to test our bottle in flight. Most wind tunnels are horizontal. Ours is vertical so that the water stays at the bottom of the bottle, just as it would during launch.

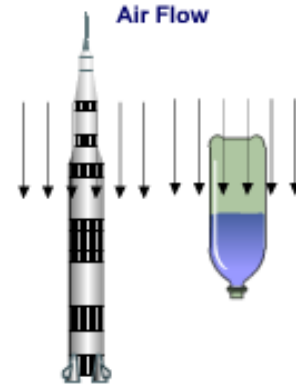
The clamp holding the bottle in place is actually a pivot, allowing the bottle to spin if conditions aren't correct. It is attached to the bottle at the bottle's **Center of Gravity (CG)**. That's the balance point for any object... the weight of the object is equally distributed on either side of that point.

**-- Open the Wind Tunnel --**

Ok, now select the "Start" button on the wind tunnel page.

**What did you find?**

- a) The rocket was stable and worked fine. I'm going outside to try it right now.
- b) The rocket was unstable and spun out of control.
- c) I'm not sure.



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