

Tornado Tube

Try It Out

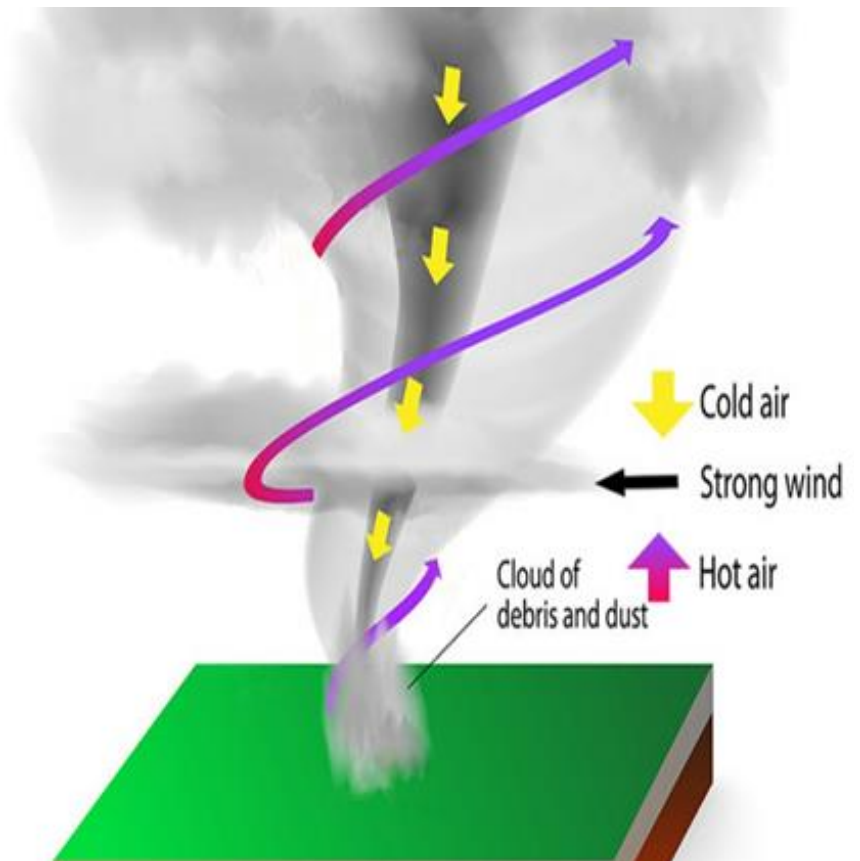
Flip the tube over so the bottle on top has water in it. Grab it in the middle and give it a swirl to start the water moving inside the bottle.

What's Going On?

Tornadoes, whirlpools, waterspouts, and similar motions in fluids occur when liquid drops through an opening. These are called **vortexes**. In liquids, the potential energy (mass) is converted to kinetic energy as it descends, pulled by gravity through an opening. In the atmosphere, thermals (columns of rising air) and wind shear (short shifts in wind speed) are the source of energy that produces the vortex.

Why Does It Matter?

Vortexes play an important part in weather and ocean current patterns. Understanding how tornadoes form has led to advanced warning systems that help keep us safe from these dangerous phenomena.



The vortex of a tornado (Image: Jonathan Addison)

Wonder While You Walk...

The Coriolis effect describes why vortexes in the atmosphere and in water rotate clockwise in the Northern hemisphere and counter-clockwise in the Southern. Why would that be?



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