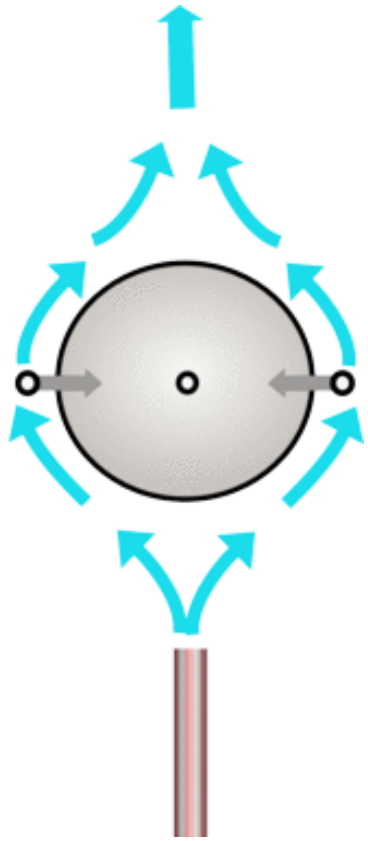
Floaty

Try It Out

Hold the levitation device in one hand and hold the ball over the orange part. Pull the trigger and let the ball go. What happens? Try slowly tilting the device back and forth. How is the ball staying in the stream of air?



Low pressure pockets on both sides of the ball cancel each other out (Image: Dave Ansell)

What's Going On?

The force of the air on the bottom of the ball keeps the ball afloat, but it's unexpected that the ball stays in the stream of air. The **Coandă effect** describes how a stream of flowing fluid, like air, interacts with a solid surface nearby. When the air flows around the ball, it creates pockets of low pressure that drag the ball back and forth in the air stream, keeping it relatively stable.

Why Does It Matter?

Many different applications of the Coandă effect have been seen over the years, ranging from increasing efficiency of air conditioning and Formula One race cars, to increasing lift on planes. On the right, is an experimental aircraft from the 1950s that employed the Coandă effect to generate lift. It was designed to take off with limited runway space.

Wonder While You Walk...

What would you think if you saw an experimental aircraft like the one pictured flying through the air?