

2 Take the bottle-flip challenge

Will you be crowned the champion bottle-flipper?

What you need

- A clear plastic bottle
- Water

How does it work?

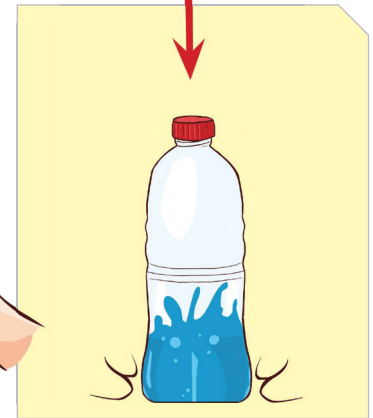
It seems improbable that a tall, rotating object could make a stable landing, but the secret is the partially filled bottle. As the bottle spins, the sloshing liquid spreads out and slows the rotation of the bottle. Get the forces just right, and the result is a slow, near-perfect vertical touchdown. Why not challenge your friends to a flipping battle, or see how many can you do in a minute? Email us at hello@science-nature.co.uk to tell us how you got on.



1 Fill the bottle about one-third full of water. Hold it by the neck with your fingertips in a "claw grip". Take care not to hold the cap, so that the bottle can swing freely in your grip.



2 Swing the bottle slightly back towards you then flick your wrist up and out. As its bottom swings up, let it go. Push down as you release to make the bottle spin.



3 If the bottle doesn't make a full turn before landing, you need to let go of it later (and flip it harder). If it rotates too much, release it sooner. Keep practising until you get the knack.

TAKE IT TO THE MAX

Can you "cap it"? This is when you flip the bottle to land it on the cap. Start out by gripping the bottom of the bottle to flip it.

TOP TIP!

When picking your bottle, choose one with a flat bottom. If the plastic is too hard or too flimsy, it can make it trickier to land.



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