

The Unstoppable Can! A Spinning Science Trick!

October 22, 2024 / DIY / Stem Activities / Marvelous Mechanics Motion / Age 6 - 8 / Spinning Non Topping Can



Have you ever seen a magical trick where a drinks can balances on its bottom edge like an acrobat without falling over? The secret to making the can spin and balance lies in the amount of water inside! Through this experiment, you'll learn about the science of centre of gravity and understand how objects maintain balance, just like a little physicist.

- Age: 6-8
- Time: Less than 30 minutes

Materials Needed:

Drinks can
Water



Step-by-Step Instructions:

1. Give it a try - can you make an unopened drinks can stand tilted on its bottom edge? How about an empty can?



2. Gradually add water to the empty can. You can start with 10ml. After adding water, gently tilt the can onto its bottom edge and see if it can maintain balance. If the can falls over, it means there's not enough water yet.



3. Continue to gradually increase the amount of water, adding 10ml each time, then test whether the can can balance upright.

Tip:

If you add too much water, the can might not balance, so you need to be patient and try multiple times with small amounts.



4. Once you've found the right amount of water, gently push the can, and it will spin along its bottom edge without falling over. Is your can spinning?



The Science Behind It:

The centre of gravity is the point where an object's weight is concentrated, and it determines whether the object can balance. When the can is empty, its centre of gravity is in the middle, so it easily falls over. When we add the right amount of water to the can, the weight of the water changes the can's centre of gravity, moving it closer to the bottom. This allows the can to spin steadily along its edge without falling over.