



Curiosity Guide #209

Friction

Accompanies Curious Crew, Season 2, Episode 9 (#209)

Floating Marble

Investigation #2

Description

Challenge your friend with a marble trick!

Materials

- Cylindrical glass jar, like an olive jar or test tube with a screw-on top
- Marble
- Salt
- A friend

Procedure

- 1) Place the marble in the bottom of the jar.
- 2) Fill the jar $\frac{3}{4}$ full with salt. The marble should be buried.
- 3) Screw on the top to the bottle.
- 4) Challenge a friend to get the marble to the top of the jar.
- 5) Could your friend do it?
- 6) You take a turn. Shake the bottle up and down. Did the marble rise to the top?

My Results

Explanation

At first, the marble was in contact with many salt particles. There was a lot of **frictional resistance**. Once the jar began to shake, all of the particles were in motion, freeing the marble. The smaller salt particles fell beneath the marble. The same strategy will work when shaking a new box of cereal that has a prize buried at the bottom.

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