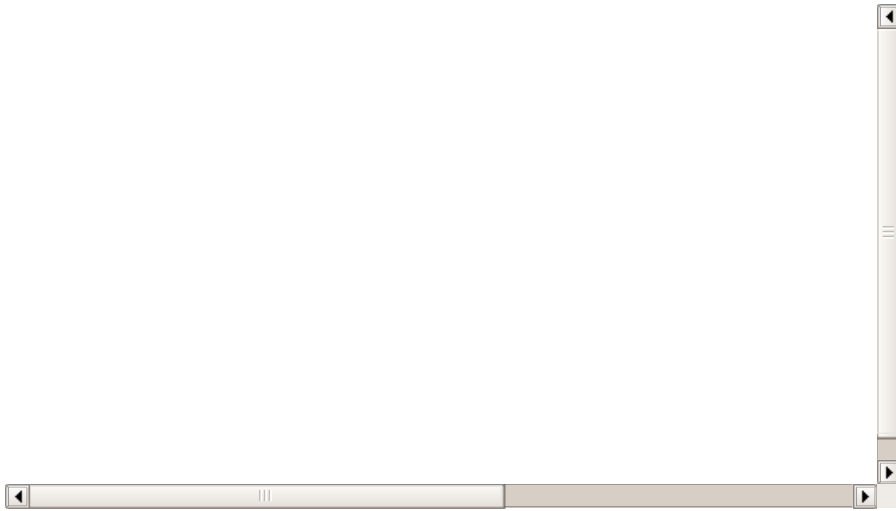


Swing a bucket of water without getting wet

By [Worth Sharing](#) | Jun 7, 2016

Can you swing a bucket of water around in a circle over your head without getting wet?



Let's consider the water when the bottle is at the top most position. At this instant, the water has a horizontal velocity. The earth's gravitational pull would have caused the water to continue along a parabolic arc. The bottle, however, intends to follow a circular path. Relative to the circular path of the bottle, the parabolic path of the water would have taken the water out of the bottle through the TOP, not the BOTTOM, thus puncturing the base of the bottle.



Of course, the bottle would not allow itself to be punctured by water. So what it does is to exert a downward normal contact force on the water, just enough to push the water into following the same circular path as the bottle.

The water falls out of the bottle only if it falls faster than the pail. As long as the bottle is swung at a high enough speed, this will not happen. In fact, the bottle must press down on the water to make the water fall faster, as fast as the bottle.

The video & explanation is taken from Mr Chua Kah Hean's blog [XMDemo](#)

Category: Classroom Resources

Subject: Science & Technology

Board: All boards

Grade/Standard: Class 9-10
Class 11-12

License: CC BY-NC-SA

Source URL: <http://teachersofindia.org/en/article/swing-bucket-water-without-getting-wet>