MAGIC SPHERES

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MAGIC SPHERES

A ball bearing magically becomes a ping pong ball in a jar of popcorn.

“For this trick, all you need is a bit of un-popped pop corn and a ball bearing.” It's the perfect phrase to get all of the people around you excited for a bit of science magic. Many people don't realize that pop corn and ball bearings have a remarkable chemical reaction that turns the ball bearing into a ping pong ball. In fact, when you perform the demonstration, your audience won't believe their eyes.

Materials
- Large, clear container with lid
- Un-popped popping corn
- Ball bearing
- Ping pong ball

EXPERIMENT
1. Fill a large, clear container 3/4-full with un-popped popping corn.
2. Here's the secret… push a ping pong ball down into the popping corn. Make sure that you cannot see the ping pong ball anymore.
3. Set the ball bearing on top of the popping corn in the container and place the lid on the container.
4. Conjure some magic and swirl the container.
5. Like magic, the ball bearing is changed to a ping pong ball!
How Does It Work?
The secret is in the densities of the ball bearing and ping pong ball. If you compare the size, or volume, of the two spheres, you'll notice that they are very similar. However, if you compare the masses of the two spheres, there is a distinct difference. The ball bearing is much heavier than the ping pong ball.
The two spheres share a comparable volume, but differ in mass. That means the balls have different densities. Density is the measure of how much “stuff” is in a particular space. In this instance, we are talking about how much “stuff” each sphere has in them. To calculate density, divide the mass of the object by it’s volume.
So what does density have to do with the ball bearing sinking while the ping pong ball rises to the top? The swirling motion of the popping corn (which has a density somewhere between the two spheres) lets the ball bearing sink past the kernels. The same motion forces the ping pong ball upwards as individual kernels slide down, past the ping pong ball.
1. Transfer the corn into the container.

For a magic show, stash the ping pong ball inside.
2

PLACE THE BALL BEARING INSIDE
3

SUMMON YOUR MAGIC & SWIRL THE CONTAINER
Test other materials to see if they too transform the ball bearing into a ping-pong ball.