

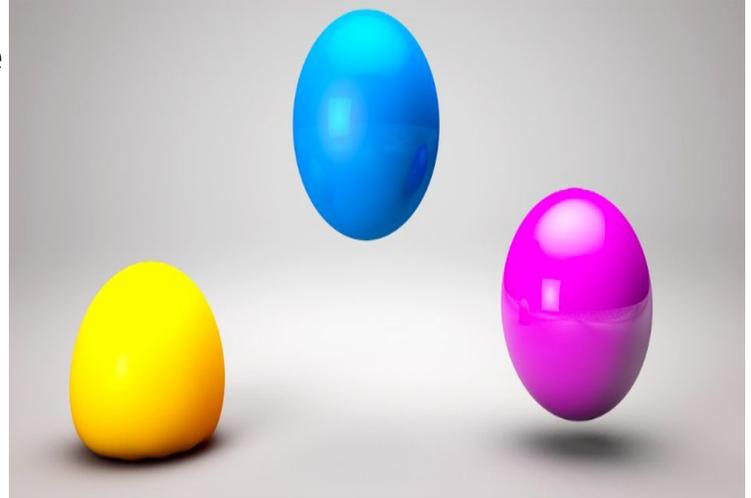
DIY SCI: The Science Bounce Ball!

What is it?

Household items combined with scientific theory to create opportunities for LOTS of fun, this DIY is an opportunity to have a ball....literally...and bounce it off the wall or into a hoop (always remember safety first).

What you'll need (per scholar)

- 2 cups for mixing
- Borax
- Corn starch
- Glue
- Measuring spoons
- Food Coloring
- Paper towels
- Gloves
- Mixing sticks
- Warm water



How to make Bouncy Ball:

1. Make sure you have your 2 cups (paper or plastic is fine)
2. Add 1-2 tablespoons of glue into the cup and add 3 drops of food coloring and stir until fully mixed
3. **In another cup** add 2 tablespoons of warm water and 1/2 teaspoon of borax and stir until it is fully dissolved
4. Pour borax solution into glue solution (Cup from step 3 into cup from step 2)
5. Add 1 tablespoon of cornstarch into solution and let sit for 15 sec
6. Mix until the mixture is difficult to stir and hardens (you'll get to a point where you can't really stir it anymore).
7. Take hardened mixture out of the cup (it will be sticky/goopy at first).
8. Mold the substance into a ball
9. Place the ball in the freezer for 5 minutes
10. Now it's time to bounce...the ball! Have FUN!

What is it about this mixture that makes it do its thing?

- It's primarily due to the mixing of the glue, borax, and cornstarch. Allow us to explain...
- Glue is made of a polymer, PVA (Poly Vinyl Acetate), which is strong and flexible. Polymer? What's that you ask? Poly = Many, mer = parts, therefore Polymer = Many Parts. Polymers are commonly referred to as a Macromolecules, or molecules containing a very large number of atoms.



- Borax, chemically known as Sodium Borate, is a naturally occurring mineral found in seasonal lakes caused by repeated evaporation and essentially creates chains of molecules that stay together when you pick them up.
- When Glue/PVA and Borax/Sodium Borate meet they create a chemical reaction and don't want to let go of each other
- The cornstarch helps the substances keep their form and stay together, which allows to enjoy the fun of our bouncy ball. Now that you know the secret and the ingredients feel free to experiment and try different ratios of each substance to see what happens.

Happy learning friends!

