

Bouncy Balls

Objective: Can you make your own super bouncy ball?

Supplies:

1 Popsicle stick

1 bowl

1 cup

Elmer's glue

Borax powder

Cornstarch

Warm Water

Food coloring

Plastic Baggie

Procedure:

- Measure out 2tbs of warm water into a cup.
- Add ½ tsp of Borax powder into the cup.
- Add 2 drops of food coloring to the cup
- Using a popsicle stick, stir the warm water, food coloring and Borax powder together until completely dissolved. This is your Borax solution.
- In the bowl, pour 1tbs of Elmer's glue.
- Pour ½ tsp of the borax solution you created into the bowl.
- Add 1tbs of cornstarch to the bowl. **Do not stir.**
- Wait for 15 seconds, observing the way the ingredients interact with each other.

- After 15 seconds, stir all ingredients together.
- When the mixture became too hard to stir with a popsicle stick, take the mixture out of the bowl and mold it into the shape of a ball with your hands.
 - If your mixture is still too runny, add more cornstarch.
- The ball will be sticky at first, but the more you knead the ball, the less sticky it will be.
- When your ball is no longer sticky, it is ready to bounce!
- When you are done bouncing your ball, place it in a plastic baggie. The ball will retain its bounciness if it is not allowed to dry out. If the ball becomes flat in transport, simply reroll with your hands before bouncing.

Activities:

- Which ingredient do you think makes your ball the bounciest? Why?
- Which ingredient do you think makes your ball the slimiest? Why?
- How high can your ball bounce?
- What do you think would happen if you doubled the glue added? Why?
- What do you think would happen if you doubled the cornstarch added? Why?

How it works:

“This activity demonstrates an interesting chemical reaction, primarily between the borax and the glue. The borax acts as a “cross-linker” to the polymer molecules in the glue – basically it creates chains of molecules that stay together when you pick them up. The cornstarch helps to bind the molecules together so that they hold their shape better.”

- From Sciencebob.com (<https://sciencebob.com/make-your-own-bouncy-ball/>)