

TINKER
LAB *At Home!*

EGG-STRAORDINARY EXPERIMENTS PT. 2

Age: 4-8

Materials: Food coloring (if you didn't use it previously), water, baking soda, heating pan and stove (optional)

Introduction: Have you ever wondered why eggs have a shell and a transparent membrane? How could you remove the shell without breaking it or without boiling the egg?

We can do that using some basic chemistry. You don't need to be in a lab to experiment with chemistry every day. Our kitchens are full of different supplies to experiment with!

Activity: Colorful Egg



1. Place your shell-less egg in a clear container with water. Add 2 or 3 drops of food colorant to your container. Wait for 24 hours or until your egg turns into a different color.



2. Pour off the water and add fresh water plus 1 tablespoon of baking soda and stir it. Leave your container undisturbed for 24 hours. Baking soda is bicarbonate of soda, a [chemical compound](#) with the formula [NaHCO₃](#). Baking soda has carbonate, which is also a component of the eggshell.



3. Pour off the water and take a look at your egg. How does it feel? Does it look different now? If your egg looks smaller but the membrane feels thicker now, it's again, thanks to osmosis. The semipermeable membrane is moving some particles from a region of high concentration to a region of low concentration. Some of the carbonate particles stayed in the surface of the membrane, and some of the water is moving out of the egg.



4. Optional: Break the egg and pour it in a heating pan (ask for help from a grown-up for this step). Was it easier to break than a regular egg? How does the inside look like? What happens if you cook it?

