

# NAKED/BOUNCING EGG

A naked egg, or bouncing egg is made by dissolving the hard (calcium carbonate) shell from around the egg, leaving the membrane only to hold the egg together.

**Difficulty:** Easy

**Time Required:** 3 days

**Ingredients:**

- Hard-boiled egg
- Glass or jar, big enough to hold the egg
- Vinegar (we use 10% HCL as it is slightly faster)
- Food coloring (optional)

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## DIRECTIONS

### Naked/Bouncing Egg Recipe

1. Place the egg in the glass or jar.
2. Add enough vinegar to completely cover the egg. The egg will absorb food coloring if it is added to the vinegar.
3. Watch the egg. What do you see? Little bubbles may come off the egg as the acetic acid in the vinegar attacks the calcium carbonate of the eggshell. Over time the color of the eggs may change as well.
4. After 3 days, remove the egg and gently rinse the shell off of the egg with tap water.
5. How does the boiled egg feel? Try bouncing the egg on a hard surface. How high can you bounce your egg?

### Tips

- The egg looks translucent when you shine a flashlight through it because the hard, outside shell is gone. The only part that remains is the thin membrane called a semipermeable membrane.
- You might have noticed that the egg got a little bigger after soaking in the vinegar. Here's what happened: some of the water in the vinegar solution (household vinegar is 96% water) traveled through the egg's membrane in an effort to equalize the concentration of water on both sides of the membrane. This flow of water through a semipermeable membrane is called osmosis.
- If you take your naked egg and place it in a glass filled with corn syrup, the egg will shrivel. Since corn syrup has a lower concentration of water than an egg does, the water in the egg moves through the membrane and into the corn syrup to equalize the water concentration levels on both sides.

