

# Bouncing eggs

Your Science Fair Number

# MATERIALS

Raw eggs



Vinegar



3 jars



Water



# PURPOSE & HYPOTHESIS

Investigate the effect of mixing vinegar and water on the bounce of eggs placed in the mixture with different concentrations.

The hypothesis adding water will make the eggs less bouncy. I think it will get bouncier as the time passes.

# RESEARCH

I used different websites to research the different experiments on bouncing eggs and the different results.

<https://science-u.org/experiments/bouncing-egg.html>

<https://parentingchaos.com/bouncy-egg-science-experiment/>

<https://www.mombrite.com/bouncy-egg-science-experiment/>

<https://coolscienceexperimentshq.com/bouncy-egg>

# EXPERIMENT

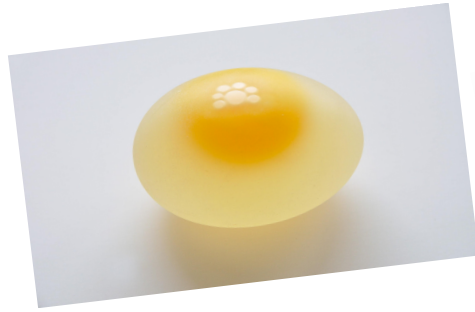
Place the eggs in three different jars:

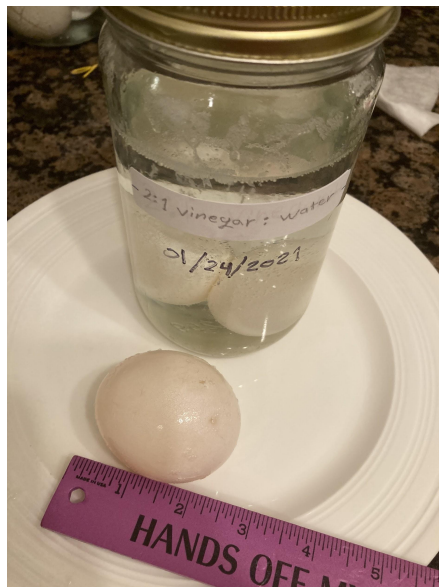
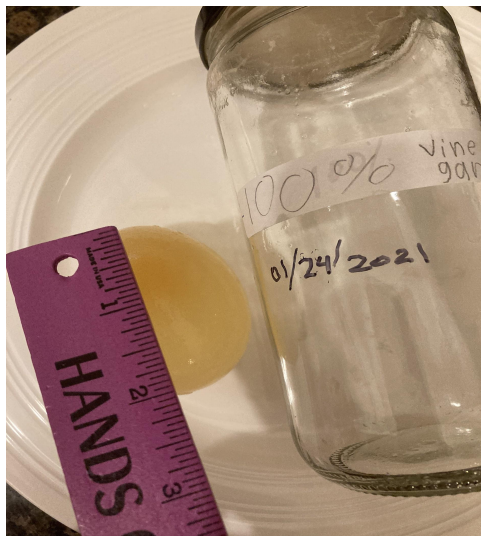
- ❖ Jar with 100% vinegar,
- ❖ Jar with a 2:1 ratio of vinegar to water
- ❖ Jar with a 1:1 ratio.

I placed the eggs on Jan 17. On the 20th I took one egg out from each jar and tested it to see how bouncy they are.

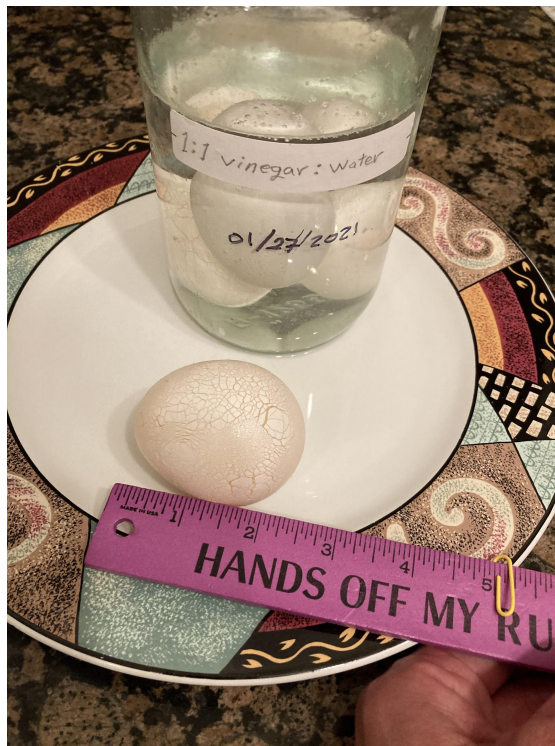
I repeat the experiment on 24th and 27th.

# PHOTOS











# ANALYSIS

❖ In Jan 20. I noticed the following:

1. The eggs in the jar 100% vinegar became translucent and you can see the yellow yolk, and it bounced when I dropped from 4 inches, but when I dropped it from 8 inches it broke.
2. The eggs in the 2:1 jar did not expand, but it did bounce from 8 inches, but cracked on the second try.
3. The eggs in the 1:1 jar expanded and started to crack, but because the shell still hard, so I didn't try to test them.

❖ In Jan 24. I noticed:

1. The eggs in the jar 100% vinegar became more translucent, and it bounced when I dropped from 8 inches, but when I dropped it from 10 inches it broke.
2. The eggs in the 2:1 jar start to expand, and it did bounce from 4 inches up to 8 inches, but cracked when I dropped it from 9 inches.
3. The eggs in the 1:1 jar, their shell still hard, when I dropped it from 4 inches it did not bounce or break, I repeat the dropping up to 7 inches, and I had the same result, it broke when I dropped it from 9 inches.

# ANALYSIS

- ❖ In Jan 27. I noticed the following:
  1. The eggs in the jar 100% vinegar, I dropped from 9 inches it broke.( was my last egg)
  2. The eggs in the 2:1 jar, it broke from first drop at 5 inches, ( was my last egg)
  3. The eggs in the 1:1 jar,the shell still hard, this time I dropped it from 3 inches, it did break. I tried with another egg from the same jar but this time I dropped it from 2 inches it did not break or bounce it just was dead weight.

# CONCLUSION

The higher vinegar concentration makes the eggs bounce quicker by removing the shell quicker.

Waiting 1 week makes the eggs bounce again and again from heights up to 8 inches.

After 10 days the effect was less and the eggs did not bounce as many times and as high.

# REAL WORLD CONNECTION

The experiment doesn't have direct real world connection, but shows the value of patience and choosing the right moment to succeed in your life. If you move too quick you may fail, but if you wait too long you may lose your chance.

That's what happened to the eggs after one week, it bounce many time up to 8 inches, but after three days they barely bounce,

# WORKS CITED

<https://coolscienceexperimentshq.com/bouncy-egg/>

<https://www.mombrite.com/bouncy-egg-science-experiment/>

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