

Rubber Egg Experiment from Little Bins for Little Hands

- Raw Eggs
- Household Vinegar
- Jar/Vase

SET UP:

STEP 1: Place an egg in the jar and cover with vinegar. You can color the vinegar for rainbow colored rubber eggs too!

STEP 2: 24 hours later, drain and refill with vinegar. Set aside and patiently wait 7 days. Yes! One whole week until your naked egg is ready.

Notice the bubbles on the eggshell! This is the acid in the vinegar reacting with the calcium carbonate in the shell. This reaction is producing a gas called carbon dioxide!

STEP 3: After 7 days, remove the egg and rinse it off. Ours had a layer of brown scum that was easily washed away! The hard outer shell is gone and the egg white and yolk are surrounded by a thin membrane.

Alternatively, you can try out the eggs in vinegar after 48 hours!

EGG IN VINEGAR RESULTS

Now for the fun part, exploring the naked egg with your child! We gathered a few supplies such as a magnifying glass and a large flashlight. However, first, we talked about what our naked egg felt and looked like. We had made a cool rubbery feeling egg!

Help your child learn to explore by asking questions to spark curiosity!

What does the egg feel like? What color is it? Is it hard or soft? Does it feel squishy?

All of these questions encourage exploration and hands-on learning. Have kids use their senses to observe! What does it smell like? What does it look like? There are so many ways to explore. Grab the magnifying glass too!

CAN AN EGG BOUNCE?

Yes!! How high can an egg bounce?

TEST IT: How high can your egg bounce before it breaks? Watch out! This might get messy!

CAN YOU SEE THROUGH AN EGG?

Well, in general, you can't see through a regular raw egg but what about a rubber egg. What happens when you put the naked egg up to a flashlight?

TEST IT: You can see through it! You can even see the yolk rolling around inside. Why is this? Because the hard outer shell is no longer there, you can see through the membrane of the egg.

WILL A RUBBER EGG BURST?

Of course, we were prompted to wonder what would happen if you burst the naked egg. WOW! With a quick prick from a skewer, the egg burst! We were all quite surprised. The images below show what the naked egg looked like afterward.

WHAT HAPPENS WHEN YOU PUT AN EGG IN VINEGAR?

The eggshell gets its hardness from a mineral called calcium carbonate similar to our bones.

When you place the egg into the vinegar, you will start to observe bubbles. These bubbles are a chemical reaction between the acid in the vinegar and the base in the calcium carbonate of the eggshell. When an acid and a base mix they form carbon dioxide which is a gas. Try our dissolving seashell experiment for another variation of this chemistry lesson.

You can also observe that the egg gets larger as it sits in the vinegar. The eggshell dissolves and leaves a soft, bendable, squeeze-able, rubber egg. Does it bounce?

Kids can gently squeeze the egg and bounce the egg. However, be prepared for the eggs to burst! It's also fun to take a flashlight to the egg and observe what you can see!

MORE EGG EXPERIMENT VARIABLES

For younger kids, this basic version is perfect! It includes the right amount of play and learning. For older kids, you might want to add some extra variables or experiments!

- How about the egg? Are there differences in eggshells between brown and white eggs? How about organic eggs versus regular eggs?
- What happens when you put the rubber egg back in vinegar or another liquid? How about corn syrup? Test different liquids and explore osmosis once the shell is dissolved!