Virtual STEAM Expo 2021

Activity: Bouncy Egg

What You'll Need:

Not included in the kit:

- ❑ Egg
- ❑ Glass
- ❑ Water
- ❑ White vinegar

Procedure:

BOUNCY EGG: WEATHER SCIENCE
Step 1 Carefully place the raw egg in a glass jar. Pour enough white vinegar in the jar to cover the egg. Watch what happens as you add the vinegar. Tiny bubbles will cover the surface of the egg! Let the egg sit in the vinegar for 72 hours.
Step 2 After 72 hours, carefully dump the vinegar out (it helps to remove the egg from the jar first).
Step 4 Pour the remaining vinegar out of the jar and remove the egg. The egg gets significantly larger sitting in the vinegar, which could be more difficult to get out of the jar! *Tip: Be careful! The egg is still fragile. If you drop it from too high, it can still break and make a mess.*

OPTIONS

Make some assumptions about how this experiment may be different with a brown vs. a white egg. What if you put the egg in a fresh glass of vinegar after step 2 and then let it sit for 1-2 more days? Do you think the egg will be more bouncy, less bouncy, or the same? How else can you think of changing the experiment to get a different outcome? Is there a way to make the egg bouncy and also colorful?

Also, check out this [experiment](#) by theSTEMlaboratory on how adding highlighters to this experiment can help you create glowing bouncy eggs. Neat!

The Science Behind It:

The egg becomes bouncy because of a chemical reaction between the eggshell and the vinegar. You may be wondering, why does the vinegar dissolve the eggshell? The shell of an egg is made of calcium carbonate. When you place the egg into the vinegar, you see bubbles, which is the chemical reaction of the acid in the vinegar reacting with the calcium carbonate to produce carbon dioxide—tiny bubbles! You'll also notice that the egg gets larger as it sits in the vinegar. That is because some of the vinegar is absorbed in the egg through its semi-permeable membrane. Isn't science cool?!