

Kid's STEM

Stirring Curiosity in the Kitchen



During the holidays, we may cook and bake more than usual. We encourage you to invite your young learners into the kitchen with you to stir their curiosity and have some fun experimenting! See the activities below to discover how an egg may change overnight in different solutions and to perform an edible investigation.

Naked Egg

Materials:

- Raw egg
- Clear vinegar
- Glass jar
- Food coloring, optional
- Tray or plate

Instructions:

Place egg in jar. Pour vinegar over the top to cover egg. You may add a few drops of food coloring at this time. Leave egg in solution one full day, rotating occasionally so all sides become submerged.

What do you think will happen to the egg overnight?

(Next day) What do you notice about the egg? Carefully remove egg. How does it feel? What do you think happened to the shell?

Eggshells contain calcium carbonate, which reacts with an acid in vinegar called acetic acid. The acetic acid breaks up the calcium and carbonate, dissolving the shell. While the calcium floats away, the carbonate reacts with the acetic acid to create carbon dioxide. This is why you see bubbles on and around the egg.

Taking it further—try other liquids as well to see what happens!



Edible Butter

Materials:

- Glass jar with tight fitting lid
- Heavy whipping cream
- Marble (optional)

Instructions:

Pour cream in to jar, filling about $\frac{1}{4}$ way to allow room for shaking. Add clean marble (optional, but will speed up the process). Shake vigorously until cream divides into butter and "buttermilk".

What happened? The drops of fat that are suspended in the liquid smack against each other, stick together, and form butter!