LA COUNTY LIBRARY

Activity Idea

NAKED EGG EXPERIMENT

HYPOTHESIZE AND OBSERVE

Recommended for Ages 3 – 8

You will need the following materials:

- Raw eggs (2)
- White vinegar
- Glass or jar (2)
- Tap water
- Paper and a pen or pencil

*Note: This experiment takes 24 – 36 hours

Directions:

1. Label one glass as "Vinegar" and one glass as "Water" and fill each accordingly
2. Place one egg in each glass. The glass with the water will act as the "control." With your child, write down what you think will happen to each egg. Observe the reaction of the egg in the vinegar.
3. After 24 hours, gently rinse the vinegar egg to remove any remaining bits of shell. If the shell is not completely dissolved, place back in the glass with fresh vinegar for a few more hours
4. When the shell is completely dissolved, rinse the egg and write down your observations. What things do you observe about the egg's color, size or texture? Why do you think these things changed compared to the egg in the water?

Why it Works

- Eggshells are made up primarily of calcium carbonate; the molecules of calcium react with the vinegar and break it down into a different chemical structure, and releases carbon dioxide. Carbon dioxide is a gas and does not mix with water, which is why there are bubblers forming around the egg in the vinegar.
- The egg got bigger because the membrane is semi-permeable, which means that some things can pass through the membrane. For example, if you blow on your arm through your sleeve, can you feel it? You can because there are tiny spaces in the fabric of your clothes that let air pass through. The egg is similar; it can let water pass through its membrane. When only a liquid can go through the membrane, it is called "osmosis."