HOW TO MAKE SCIENCE EASTER EGGS

On the hunt for a fun Easter project? We've got eggs-actly what you need!

Spring into science with this fascinating eggs-periment! If your kids are tired of the same old egg-dyeing routine, have them hop into the kitchen for this fun activity!

Using materials you have lying around, you can try out this new twist on dyeing eggs to help your child learn about chemistry, osmosis, and more.

GATHER THIS:

- 5 eggs
- Several glasses
- Vinegar
- Liquid watercolor
- Distilled water
- Karo syrup

THEN DO THIS:

1. Have your child touch and observe an egg. What does it feel and look like?
2. Carefully lower one egg into each of the 4 glasses.
3. Fill three of the glasses with vinegar and one glass with distilled water. There should be just enough liquid to cover the eggs. Add a drop or two of liquid food coloring to each glass. Encourage your child to observe the eggs – what is happening? Is the same thing happening in all the glasses? What do they smell like?
4. Leave the glasses of eggs out on the counter for several days, observing the eggs each day. Your child can gently touch the eggs each day, just be careful not to pop them! Keep one egg in the fridge for comparison.
5. Carefully pour off the liquid from the glasses, rinse the eggs and return them to the glasses. Allow your child to gently touch and observe the eggs, including the one that was kept in the fridge. How have they changed? Are they all the same?
6. Pour karo syrup over one vinegar treated egg, distilled water over another, and allow your child to choose something else to pour over the third.
7. After several more days of observation, pour off the liquid and rinse the eggs again. Encourage your child to touch, explore, and compare all of the eggs, including the one kept in the fridge. After taking some time to notice, even encourage them to pop the eggs with their fingers and get a little messy!

ASK THIS:

- What do you notice – what do the eggs look, smell, and feel like?
- How have the eggs changed? Have they all changed in the same way? How do they compare to the egg that we kept in the fridge?
- Why might eggs have shells?

WHAT IS HAPPENING?

The acidic vinegar dissolves the calcium-based hard shell of the egg, but the membrane below the shell remains intact and toughens. This layer is a semi-permeable membrane which water can pass through. When molecules can move through a membrane, they tend to distribute in a way that equals out the concentration of those molecules on each side of the membrane. This is called **osmosis**!

When placed in the karo syrup (a hypertonic/saturated solution with a higher concentration of molecules outside of the egg), the water inside of the egg distributes out of the egg into the karo syrup and the egg shrinks. If the egg was in dye, the dye should pass out of the egg and create a layer of color in the syrup. Because distilled water is nothing but water (a hypotonic solution with a lower concentration of molecules outside of the egg), the egg should swell as the water distributes into it.

WHAT THIS TEACHES:

Skills: Observation, carrying out investigations
Themes: Chemistry, osmosis, egg anatomy

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SCIENCE PLAYGROUND & ZOO