Eggsperiment #3

Ingredients needed:

2 raw eggs

Vinegar

Karo syrup

Water

Container to hold both eggs in the vinegar for 24 hours

Cup to place one egg with water

Cup to place one egg with Karo syrup

Instructions:

1. Soak two raw eggs in white vinegar for 24 hours and observe.
2. After soaking in vinegar for a day, place one of the eggs in a cup of karo syrup and observe.
3. After soaking in vinegar for a day, place one of the eggs in a cup of water and observe.

Observations

1. The vinegar's acetic acid reacts with the calcium carbonate of the egg shell to produce carbon dioxide, calcium and water. While you won't notice the water and might not see the calcium, you will definitely notice the bubbles of carbon dioxide gas forming on the egg and being released to the surface. The result is two shell-less, rubbery feeling eggs.

2. Karo syrup has a very high density that comes from a high concentration of dissolved sugar. These sugar molecules are too large to pass through the semipermeable membrane of the egg. However, the water molecules can pass through the membrane of the egg and into the Karo syrup. Eventually the concentration of water molecules is the same on both sides. The water movement, from egg to syrup results in the "shrunken egg".

3. The other egg that you soaked in water appears to "grow". Why? Just as the concentration of water molecules is higher in the egg than in the Karo syrup, the egg has less water concentration than that of the water. In this glass, water molecules are moving into the egg instead of out of it. Therefore, the increase in waters results in the "expansion" of the egg.