Raven Hill DISCOVERY CENTER
WHERE SCIENCE, HISTORY AND ART CONNECT

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Raven Hill Discovery Center is a 501(c)(3) tax-exempt corporation.

Mission: Raven Hill provides a place that enhances hands-on and lifelong learning for all ages by connecting science, history & the arts.

Liquid density

Density was "made up" by scientists to be able to compare matter. Density is ratio of mass to volume or how much material is in a given space. The formula for density is Density=Mass divided by Volume. One gram of water occupies a volume of 1 cubic centimeter or 1 milliliter. All density is compared to density of water. Scientists gave water a density of "1", so that everything can be compared to water. If something has a density of less than one, it floats in water. If something has a density of more than one, it sinks in water. Even liquids sink and float. Now for the fun part! You will need different liquids: Karo or other syrup, water and oil. You can color the Karo syrup one color and the water a different color in small glasses or jars, if you want. Oil and water don't mix, so you can't color the oil, but it is kind of yellow anyway. You can use a larger clear glass or jar or add the oil to the Karo syrup glass. Then add the water. You should see three different layers. Where does the water layer end up? The Karo syrup is denser or more dense than water, so it sinks below the water. The oil is less dense than the water, so it floats above the water. You can try adding solids and see what their density is. Try a piece of crayon, a glass marble, a washer, a small piece of plastic or a piece of cork, if you have one. Where the solids "float" indicates their density compared to the liquids. For example, a piece of wax crayon is usually less dense than the syrup and denser more dense than water, so it floats between the two liquid layers! Enjoy and be sure to clean up, when you are done.

1 Liquid density supplies


2 Color water & add oil to water


3 Pour oil/water into Karo syrup –3 layers!