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## DENSITY OF SALT-WATER

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### CLASS DESCRIPTION

In this class, students will use creative experiments to demonstrate density visually at home or in the classroom.

**TOTAL CLASS TIME:** 90 minutes

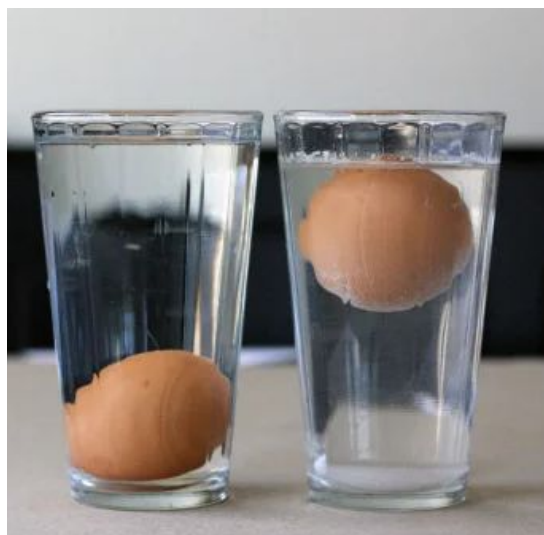
### CLASS OUTCOME

By the end of this class, students will differentiate between the density of salt water and fresh water and also measure its densities.

### INTRODUCTION

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Chemistry lessons don't have to be boring. With a couple of eggs and a little salt students will learn all about the concept of density. Science is everywhere and the ingredients for illustrating important scientific concepts are right in our homes and environment. Demonstrating density, our right in our kitchen.



Density can be described as the amount of material stuffed into a limited space. If two objects take up the same amount of space, but one weighs more than the other, the heavier object has the greater density.

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## MATERIALS NEEDED

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- Two glass cups
- Table salt
- A bottle of water
- Two eggs (Boiled or raw egg)

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## PRE-CLASS PREPARATION

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- Prepare 1 glass of fresh water (you can use tap water) ( $\frac{3}{4}$  full)
- Prepare 1 glass of salt water (water with 1 cup of salt added) ( $\frac{3}{4}$  full)

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## PROCEDURES

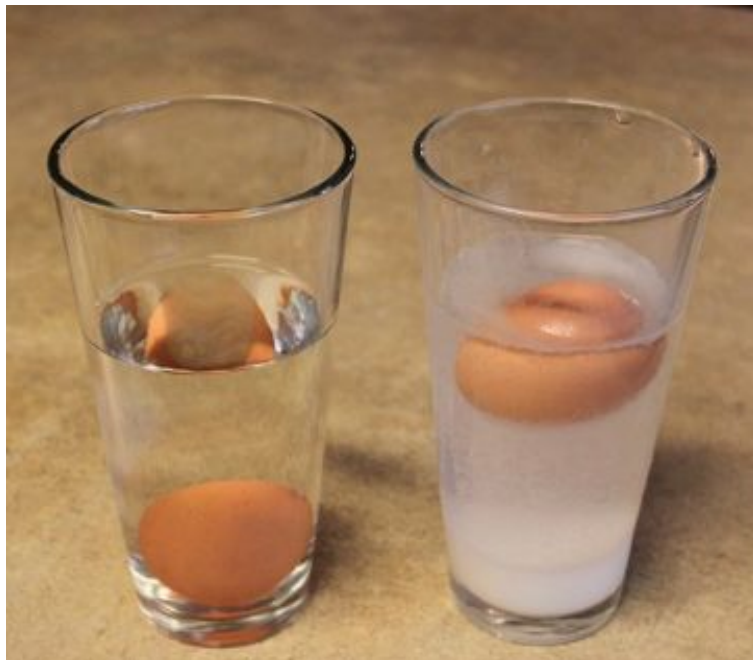
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**Step 1:** Put one egg inside the glass of fresh water

**Step 2:** Stir the glass of salt water to ensure the salt is dissolved and no particles settles down

**Step 3:** Put one egg inside the glass of salt water

**Step 4:** Observe the eggs in the water.



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## OBSERVATION

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In fresh water, the eggs sinks to the bottom of the glass while the egg in the salt water sinks. So, salt water is denser than fresh water. Add enough salt, and you can get the egg to float on top. Get something in between, and you can actually float an egg midway in the water column:



The salts add mass to the water in which they are dissolved. This produces a greater mass or a greater density. The denser a liquid is, the easier it is for an object to float on it. There are more atoms in salt water than in the same amount of fresh water. The amount of salt dissolved in water is called salinity.

**NOTE:** The density of other liquids such as vegetable oil, palm oil, coloured water, soda drinks demonstrated against each other or on solid materials.



## REFERENCES

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<https://www.education.com/worksheet/article/density-of-salt-water/>  
<https://www.homesciencetools.com/article/liquid-density-project/>