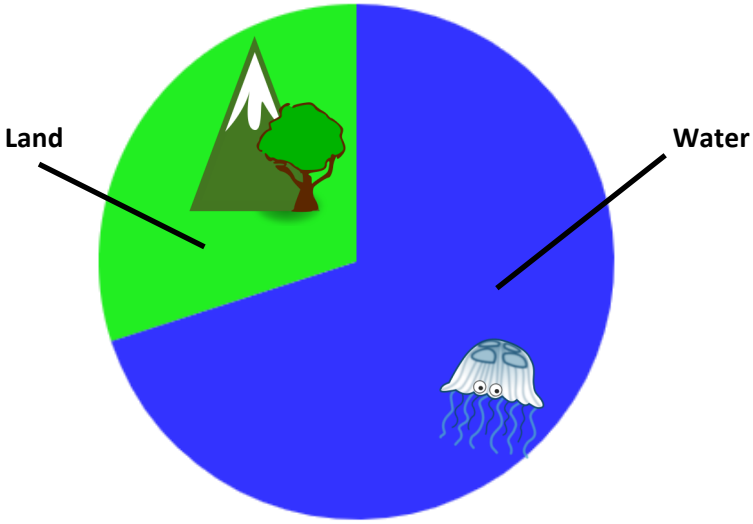
# Water on our Planet

**About 70% of the Earth is covered in Water!**




Most of the water on earth is saltwater and some is freshwater. What is the difference between saltwater and freshwater? **Saltwater** contains dissolved salt in it, while **freshwater** does not.

## Test Your Water IQ

Which of these has freshwater, and which has saltwater? Circle the bodies of water below if the are **freshwater**

**Stream**

**Pond**

**River**

**Lake**

**Ocean**

**River Mouth**

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## What else makes *Saltwater* different from *Freshwater*?

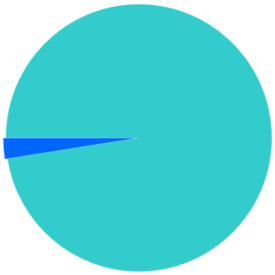
Have you ever swam in the ocean? Did you notice anything different from swimming in the ocean compared to swimming at a pool or in a freshwater lake? We have noticed that it's easier to float on your back when in the ocean.

Prediction: It is easier to float in saltwater than in freshwater.

To test this we will do an experiment

Did you Know?

97.5% of all water on Earth is saltwater
2.5% is freshwater



You will Need

- 2 plastic bowl containers
- 2 eggs or grapes
- 6 tablespoon of Salt
- 2 ½ cup of Water in each container
- 1 black marker, and tape

Instructions

1. Take two containers and place them on a table. Using a black marker and tape label one container as Salt Water. Label the second container as Fresh Water.

2. Pour 2 $^{1}/_{2}$ cups of tap water in the container that is labeled Salt Water. Then pour 2 $^{1}/_{2}$ cups of tap water into the container labeled Fresh Water.


3. Pour and stir 6 tablespoon of table salt or sea salt into the Salt Water container until the salt is fully mixed into the water.

4. Put an egg or grape into each container.

5. Leave eggs or grapes in the water for 5 minutes and see which egg or grape will float or sink.

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## Floating Egg Experiment Results

The ability to float in water is called **Buoyancy**. Which egg was more buoyant, meaning which one floated best? Circle one:

Saltwater Egg  Freshwater Egg

Watch this video, to see Ms. Yesenia's results

### What to do with that leftover Saltwater?

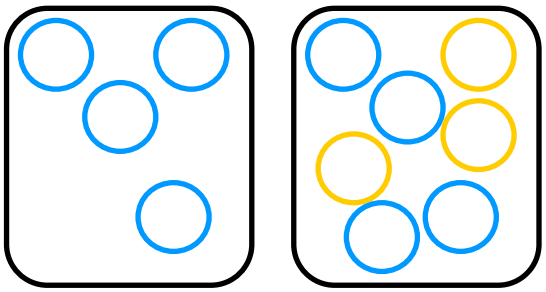
Don't dump that saltwater down the drain! Ms. Yesenia came up with a way to make a unique watercolor drawing with it. Watch this video to see what to do!

## An Closer Look at the Results

By dissolving salt into the one container of water we increased the mixtures **density.**

**Density** is the measurement of how much mass/matter there is in a volume. Higher density means *more* matter where lower density means *less* matter.

Look at the images to the right. Let's imagine the blue circles are water matter and the yellow are salt matter. **Which would you say is more dense? Which one contains more matter?**



**By dissolving salt into water you increase it's density because you add more matter to the mixture.**

Buoyancy is affected by density. The more dense a liquid is the easier it is to float because there is more matter to hold the object up.

**You can float more easily in the ocean because the water and salt mixture is denser than freshwater! The egg floats best in saltwater because it is denser than freshwater.**

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## Why is the Ocean Salty?

We used table salt in this experiment, but there isn't anybody dumping salt in the ocean to make it salty. So where does the salt come from?

Salt in the ocean comes from the rocks on land. When the waves of the water hit the rocks, or when a river flows across the land, passing and hitting rocks around it, it will start to slowly wash away small parts of the rock. This process is called weathering. Those small parts from the rocks would then flow down to the ocean creating salt water.

Not all rocks are salty though, only some are. Rocks containing the mineral called Halite, are salty! In some places around the world there is a high amount of Halite in the rocks, and people mine it to make table salt, these are called salt mines. Another way to get salt is to leave salt water out so the water can evaporate and leave behind the salt.

The mineral Halite up close

**Try it**! Don't dump the container of saltwater you made, pour some into a shallow dish and leave it uncovered. The water should evaporate and leave behind salt!

A salt maker in Japan throws ocean water over a slab to let dry.