

Floating Eggs

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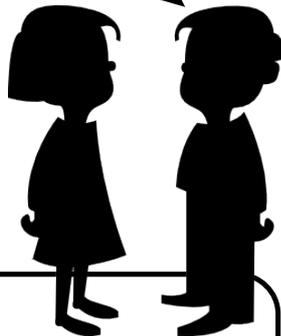
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Level

Big Idea

Saltwater is denser than freshwater so objects float better in saltwater.

The activity is aimed at this level but can be modified to suit other levels.



What you need to know

- Saltwater is denser than fresh water because of its salt content.
- The egg will sink in the fresh water because it has greater density than the water.
- The egg will float in the salt water because when salt is added to water its density becomes greater than that of the egg. That makes the egg float.
- A simple definition of density is how heavy something is compared to its volume.
- Students think that seawater contains table salt (sodium chloride). However seawater contains many different salts and minerals. Ensure that this is made clear during this investigation.

Learning Intentions

- ✓ We are learning about the different properties of salt and fresh water.

Success Criteria

- ✓ I can explain why objects float better in salt water than fresh water.

Other Resources

Building Science Concepts

Sand, Salt and Jelly Crystals (Level 1/2)

Assessment Resource Bank

PW-L3-OB3 - Buoyancy in salt water

PW4058 - Floating and density

PW 3456 - Where will the wood float

PW3566 - Ice in water

Curriculum Links

Nature of Science

Investigating in science – Build on prior experiences, working together to share and examine their own and other's knowledge. (L3/4)

Communicating in science – Build their language and develop their understandings of the many ways the natural world can be represented. (L1/2)

Material World

Properties and changes of matter – Observe, describe and compare physical and chemical properties of common materials and changes that occur when materials are mixed. (L1/2)

Planet Earth and Beyond

Earth systems – Explore and describe natural features and resources. (L1/2)

Key Competencies

Using language, symbols and text – Communicate their ideas and understanding of scientific events

What you need

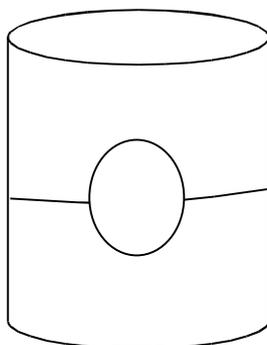
- Measuring cups (1 cup and $\frac{1}{4}$ cup)
- Eye dropper
- 2 eggs
- 2 clear beakers or glasses
- Water
- Salt
- Food colouring
- Spoon

What to do

1. Tell the students that the following experiment involves a comparison between the density of fresh water and salt water.
2. Ask them to **predict** what they think will happen to an egg when it is placed in water.
3. Fill one of the glasses with 1 cup of water.
4. Gently drop one egg into the water and watch what happens.
5. Ask students to fill the second glass with 1 cup of water and $\frac{1}{4}$ cup of salt.
6. Stir until the salt is completely dissolved.
7. Add a few drops of food colouring to the salt water and stir to mix.
8. Gently drop the second egg into the glass and watch what happens.

Questions

1. What are the differences between the ways the 2 eggs behave in the water?
2. Why do you think the eggs behave differently in the separate glasses?
3. What can you say about the density of either the egg or the water?



What's Next?

Have a go at floating different liquids on top of each other (eg- oil, milk, golden syrup, paint).

