

Saltwater vs Freshwater

4

Big Idea

Saltwater is denser than freshwater so will sink below the freshwater.

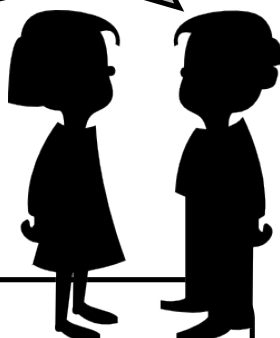
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Level

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.
- When it rains the freshwater reduces the saltiness of the saltwater on the surface.
- Saltwater is made when freshwater moves over land. The minerals in rocks are eroded by flowing water and combine with the water which eventually enters earth's oceans.
- 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 draw and explain what happens when saltwater and freshwater meet.

Curriculum Links

Nature of Science

Investigating in science – Extend their experiences and personal explanations of the natural world through exploration, play, asking questions and discussing simple models. (L1/2)

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.

Other Resources

Building Science Concepts

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

Connected

Make salt water into fresh water (Number 2, 1998)

School Journals

Salt from seawater (Part 1, Number 4, 1982)

Assessment Resource Bank

MW6289 – Dissolving salt in water

What you need

- 2 x 250ml beakers or large glass jars.
- Salt
- Blue food colouring
- Green food colouring
- water
- 2 small clear containers (glass jars are fine)
- 2 droppers
- Tablespoon
- Marker pen
- Blue and green coloured pencils
- Paper

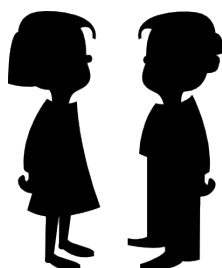
What to do

Prediction - Will seawater and freshwater mix?

1. Half fill the 2 glass beakers/jars with water.
2. Put a tablespoon of salt into one of the beakers and stir until the salt has dissolved.
3. Label the beakers "salt water" and "fresh water".
4. Pour some of the salty water into the small container until it is $\frac{3}{4}$ full.
5. Add green food colouring to this container until it is dark green. Label this container "salt water".
6. Pour fresh water into the other small container until it is $\frac{3}{4}$ full.
7. Add blue food colouring to this container until it is light blue. Label this container "fresh water".
8. Use the dropper to add drops of green salt water to the clear fresh water.
9. Observe and draw what happens (use coloured pencils).
10. Use a clean dropper and add drops of blue fresh water to the clear salt water.
11. Observe and draw what happens (use coloured pencils).

Questions

1. What happened to the salt water when it was added to the fresh water?
2. Does the salt water mix with the fresh water?
3. Does it float or sink?
4. What happened to the fresh water when it was added to the salt water?
5. Does the fresh water mix with the salt water?
6. Does it float or sink?
7. What do you think happens when fresh water runs into ocean water? Why?
8. What do you think happens when it rains out at sea? Does the rain water and sea water mix straight away?



What's Next?

- Have a go at freezing saltwater and freshwater. Which one freezes first?
- How can you turn salt water into fresh water?