

Ocean acidification in a cup



Details

What you need

- 5 clear plastic cups
- Drinking straw
- pH indicator (red cabbage indicator)
- Tap water

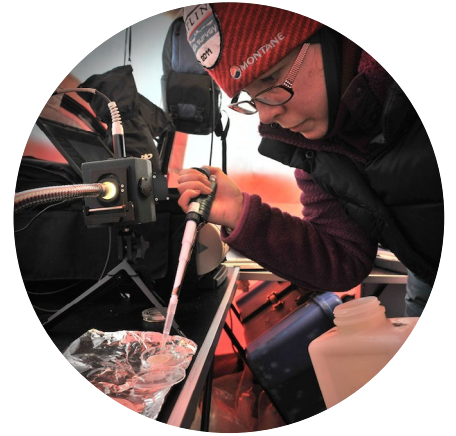
Introduction

This activity shows how water becomes more acidic when carbon dioxide is bubbled through it. It demonstrates the link between carbon dioxide in the atmosphere and a process called ocean acidification, a change in the pH, or acidity, of the ocean. This change in ocean chemistry has an impact on many living things in the oceans including coral, clams, copepods, and other sea life.

Activity steps

1. Fill two clear cups two-thirds full with water.
2. Take a drinking straw and blow through the water of one of the cups. This bubbles the carbon dioxide from exhaled breath through the water.
3. Taking a rest every 15 seconds, blow for 2 to 3 minutes through the water.
4. Before pouring your red cabbage indicator into each of the cups, try to predict how the colour of the indicator may change. Hint: the red cabbage indicator will turn pinker if the water is more acidic and bluer if the water is less acidic.
5. Pour 50ml of red cabbage water into each cup and observe the difference between the water in the two cups.

Dissolving 'coral' and 'shells' in vinegar



Details

What you need

- Clear cup or container
- ½ cup of vinegar
- A piece of chalk or seashells

Introduction

This activity demonstrates the ability of an acidic substance (in this case, vinegar) to 'dissolve' coral reefs and shells which protect ocean life. Coral and shells in our oceans are not dissolving this fast at the moment. However, the more humans burn fuels the more acidic our oceans become. Corals and shells may dissolve this quickly in the future.

Activity steps

1. Carefully half fill a clear cup or container with clear vinegar.
2. Add a piece of chalk to the container.
3. Observe what is happening.

Summary questions

What can you see happening?

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What do you think is happening?

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Predict what might happen to coral found in the oceans in the future.

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