



Ocean Acidification in a Cup

This activity will introduce your students to one of the many **effects** of climate change: **ocean acidification**. Through the background information and experiment, students will also learn how ocean acidification can affect **marine wildlife**. If you want to learn more about ocean acidification and how it affects marine life, check out our [Ocean Life](#) chapter in our [Why Climate Matters](#) course.

Things you'll need

- 1 cup per student or group
- 1 seashell or eggshell per cup
- Enough vinegar to cover each shell twice

Preparation

We recommend that each student/group have a printed copy of the handout provided. Additionally, each student/group should be provided with the necessary materials.

Instructions

Step 1

Have each student/group fill their cup halfway with vinegar and drop shells into the cups.

Step 2

Set all the cups aside until the following day.

Step 3

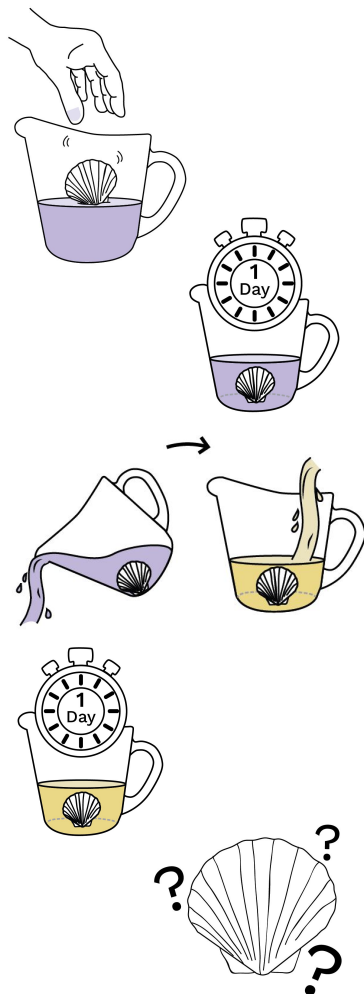
Have each student/group pour the vinegar out of the cups (without removing the shell!). The vinegar can be poured down the drain. We recommend that you do not discard the vinegar outside as it can be harmful to local wildlife. The students should then refill the cup halfway with fresh vinegar.

Step 4

Set all the cups aside until the following day.

Step 5

The next day, have the students pour out the vinegar and examine the seashell.





By the end of the experiment, it's likely that the **acidity** of the vinegar will have caused all the seashells to become **brittle** and/or to have **broken up**. Ocean acidification has the **same effect** on the shells of animals like oysters and clams.

This is when you can talk to your students about the **dangers** that ocean acidification could bring to marine life. Vinegar is a much **stronger** acid than the ocean currently is and the effects will take much longer to be seen but they will occur **eventually**.

Make sure they know that **not** all is lost! There are many things we can do to **help**. These mainly involve **reducing our emissions** by consuming fewer things, eating less meat and using more environmentally friendly modes of transportation.

We welcome feedback and would be delighted to hear your thoughts on this activity. Feel free to send an email to schools@climatescience.org and we'll be sure to get back to you soon :)