

## ACTIVITY 5: READ ABOUT OCEAN ACIDIFICATION

This content can be used as an article reading for students, or it could serve as discussion points to review chemistry content or teacher notes to provide new information to students. Depending on students' prior knowledge of chemistry, you can write chemical equations or stick with the names of the substances involved in the reactions.

In this activity, students will use a **Think Pair Square Protocol** for discussing what they will read about ocean acidification.

First, have students partner up and distribute the article, which is available in the student handouts section of this lesson, entitled **How Does Carbon Dioxide Cause Ocean Acidification?** by *Great Lakes Now* contributor Gary Abud, Jr. Allow time for students to individually read the article, and have them jot down three things they took away from the article using the **Rose Thorn Bud Protocol**—in their notebook or using the handout.

Then, give students time after reading to discuss the article that they read with their partner. Have students share their rose, thorn, and bud with each other, including how those points connect to each other. The pair should come up with a statement to summarize all of their article takeaways.

Next, have two student pairs join up, standing near each other to form the four corners of a square, to discuss the article and what they talked about in their pairs. Encourage them to come to a consensus about which point they found most important or interesting in the article.



Last, have each group craft a summary statement of the most important point from their discussion and ask for a volunteer in each group to share that key point with the whole group. As student groups share their most important point, record their ideas on the board and have students copy the list of student ideas down into their notebooks. Once the shareout is complete, ask students to return to their groups and discuss one last question based on the article:

**In what ways does ocean acidification pose a threat to our local community? Regional? National? Global? And what can we do about it?**

After giving the groups some time to discuss this question, invite conversation from the whole group to see what consensus can be reached. Be sure to encourage students to support their claims with evidence and reasoning as they discuss in the whole group.

### Teaching Tip:

*If the reading level of the article is going to be tough for some students to read individually, have partners or small groups read the article together aloud while each follows along.*