**Activity Sheet Name Lesson 10**

**The Effect of Acidity on Ocean Organisms Date**

**You saw a video in class showing how ocean acidification affects shell-making organisms and the effect this can have on the ocean food chain. Look at the scenes from the video and answer the questions for each scene.**

1. **Carbon dioxide in the atmosphere is represented by green dots. When the carbon dioxide reacts with the water in the ocean, what is produced?**



1. **Carbonate ions are represented by orange dots wearing construction hats. These carbonate ions normally combine with calcium ions to form what shell-making material?**



1. **Carbonic acid is represented by green blobs which break down to form bicarbonate ion (not shown) and hydrogen ions shown in red.**

**Describe what is happening with the carbonate ion and the hydrogen ion and why this is bad for shell-making organisms.**



1. **The video shows that because of ocean acidification, fish that eat shelled organisms will have less to eat. Explain the reasoning behind that conclusion.**



1. **The hydrogen ions are shown making the ocean water more acidic. Has ocean water actually become an acid, or become more acidic than it was in the past?**



1. **The oceans could eventually be acidic enough that shells could actually be at risk of dissolving.**

**What is the major way to slow down the process of ocean acidification?**

1. **Based on your teacher’s instructions, you can work individually or in a group to begin researching ways that society can produce less carbon dioxide to reduce the rate of ocean acidification.**

Some possible topics could be:

**Increasing and improving renewable energy sources**

Wind

Solar

Geothermal

Biofuels

Hydroelectric

**Increasing and improving transportation technology**

Battery technology for electric cars, trucks, and buses

Hydrogen fuel cells