Monterey Bay Aquarium®

Modelling Ocean Acidification

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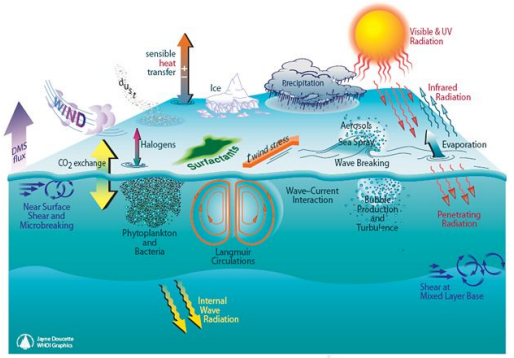
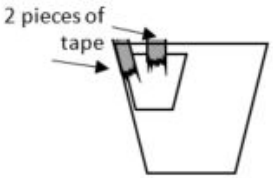
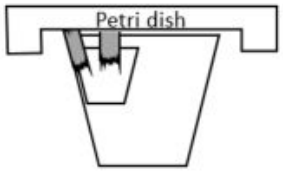
Modelling Ocean Acidification



You'll be starting here at Step 5

1. Carefully tape the small cup to the inside of the top of large cup as shown.
   a. The small cup should be about 1 mm from the top.
   b. Make certain the small cup is secured before pouring any chemicals.
2. Pour 50 mL of water into the large cup.
3. Add a full pipette of BTB indicator to your water.
4. Pour 5.0 g of baking soda ($NaHCO_3$) into the small cup.
5. Slowly pour 10 mL of vinegar (CH_3COOH) into the small cup.
6. Quickly place a petri dish over the full system to close it as shown. Trap that gas!





Solution	Color	Bubbles
Small Cup		
Large Cup *Before*		
Large Cup *After*		

Explore the model with your team

- Let’s brainstorm the components in this model
- What do the components of the model represent in the real-world system?

Explore the model with your team

Draw what you think is happening in this model system.

Don’t erase as you modify, just use a different color marker. Make sure to:

- Label the components (e.g., what part of the model represents the “ocean”).
- Use arrows to indicate interactions among components.
- Think about how chemical processes might interact with other nonliving and living components

Ocean Acidification Resources

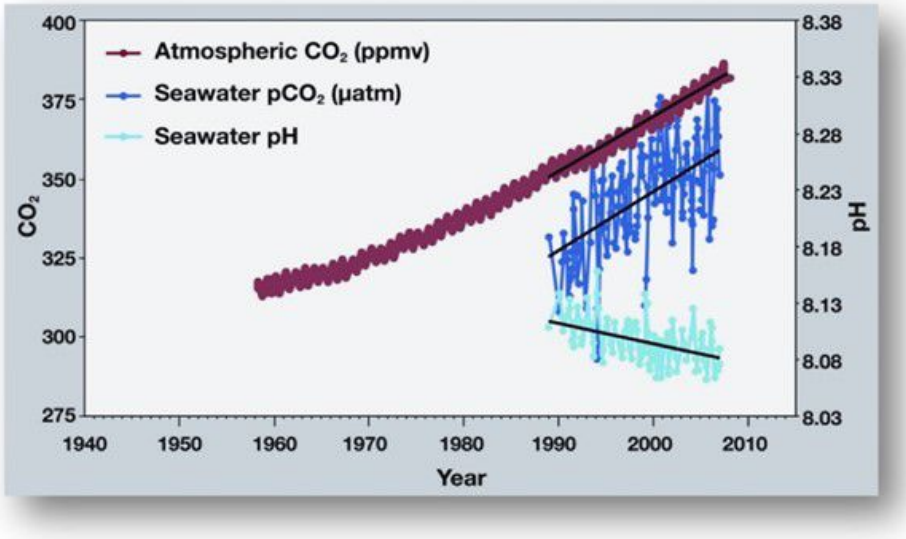
Carbon Dioxide and Our Ocean Legacy:

Ocean Acidification Cartoon

Effect of OA on Organisms

Working on Solutions

NOAA Data



Basics of Modeling

Used to explore phenomena and develop understanding