Ocean Acidification: A Systems Approach to a Global Problem

**Prerequisite**
Understanding of networks. No experience with networks? Cell phone activity from Eco. Networks

**Students learn to use CYTOSCAPE to visualize networks**

**This program/tool can be used to help students graphically depict any networks investigated or used in this or other curriculum**

**Lesson 3**
Video: leads to discussion about stakeholders and possible systems lab investigations

**Lesson 4**
Planning a Cohesive Set of experiments

Students read and prepare: "Ocean Acidification Intro"

Students read and prepare: "Why Study Diatoms"

**Possible Lab**: Understanding Nutrient Cycles and Algal Blooms

**Possible Lab**: Students design an experiment to observe the effects of CO2 on diatom growth.

Students learn to use a hemacytometer to count cells

**Possible Lab**: Students design an experiment to observe the effects of CO2 on shell dissolution.

**Lesson 5a**
Experimentation and Data Analysis

**Lesson 5b**
All lab groups explore some online data or supplemental evidence

**Lesson 6 - SUMMARY**
**ACTIVITY**: Mock summit where student groups represent key stakeholders.

**Lesson 1**
Case study through critical reading introduces students to the problem

**Lesson 2 - Lab**
Students explore sources and detection of CO2

**Class concept map**: factors and interconnections produce large map

**PART 2**
Students learn details about OCEAN ACIDIFICATION

**Students analyze**
real-time data from their

**Possible Lab**: Ocean Acidity and Temperature and/or Salinity Changes

**Possible Lab**: Mesocosms

**Other online real time data** such as Eyes Over Puget Sound and other reports

**In situ sensors**, such as Mauna Loa