



Chemistry in the Earth System

IS 6- Coastal Chemistry

What is worrying scientists about the Pacific Coast oyster population?



ChemES Critical Concepts

CC-C.10 Carbon Cycle	CC-C.11 Equilibrium	SEP 2 Developing and Using Models	SEP 4 Analyzing and Interpreting Data	SEP 7 Engaging in Argument from Evidence	SEP 8 Obtaining, Evaluating and Communicating Information
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In this unit, students learn that the oyster population is decreasing along the Pacific Coast and explore how chemistry can explain the phenomenon. Building on their understanding of Climate Change from Instructional Segment 5, students explore the chemical reactions and ramifications of ocean acidification. In the Exhibition students will raise awareness and explain the chemistry behind the phenomenon.

Coastal Chemistry IS 6

[Adapted from 2018 California Science Education Conference Climate Summit Learning Sequence: High School Chemistry: Life in Balance by Rachel Meisner, Tera Black and Phil Bresnahan.](#)

Instructional Segment Tracker

Week 16	IST: Anchor Phenomenon				
	Lesson 1   plan slides	Lesson 2   plan slides	Lesson 3   plan slides	Lesson 4   plan slides	Flex 1-4 

	Description • IST: Anchor Phenomenon • Introduce Exhibition	Description • Carbon Cycle • Lab Experiment	Description • Learn how CO₂ enters the oceans • Investigate the relationship between pH and H⁺	Description • Read and annotate an ocean acidification article • Investigate measuring pH	Flex Day Organizer
Week 17					
	Lesson 5   plan slides Description • Investigate equilibrium in the oceans	Lesson 6   plan slides Description • Watch video, read article, & summarize investigative results of experiments.	Lesson 7   plan slides Description • Shell Shift Activity • Le Chatelier Lab	Lesson 8   plan slides Description • PhET simulation • Le Chatelier's Principle	Flex 5-8  Flex Day Organizer
Week 18			Summative Task & Rubric		
	Lesson 9   plan slides Description • Ocean acidification • Simulation • Lab	Lesson 10   plan slides Description • CER • SmartFin	Lesson 11   plan slides Description • Summary Table & CER • Begin Exhibition • C:IS6 Project Choice Board	Exhibition  Summative Task & Rubric Description • Exhibition • C:IS6 Project Choice Board • Community/Content Circle: Closing Course	
 C:IS6 Materials					
Honors Chemistry: C:IS6 Project Choice Board					

