Interactive Read Aloud Plan

Grades: 6-12 Date: February 16, 2015
Unit/Lesson: The Ocean System Author: Janet MacNeil

Book Title & Author:
Ocean Sunlight: How Tiny Plants Feed the Seas by Molly Bang & Penny Chisholm

Purpose for this book

To illustrate the importance of phytoplankton to all life on Earth and to compare ocean food webs with land food webs

Focus Question(s) for the Interactive Read Aloud

What is the role of phytoplankton in the ocean ecosystem? What do they need to survive?

What will students be doing before and after using this book?

Before reading this book, students will investigate how temperature and salinity affect the density of water and create layers in the ocean. Then they learn how understanding the layers of the ocean helps explain the distribution of organisms that live there. This leads to a discussion about phytoplankton and their role as primary producers.

After reading this book, students will investigate seasonal productivity as related to latitude.

What makes this book worthwhile to share with students?

The book has a clear message, engaging and clear illustrations, and targets the big ideas focused on in the lesson.

Science/Engineering and/or Nature of Science big ideas

Energy from the sun drives photosynthesis on land and in the ocean.
Phytoplankton are primary producers in the ocean food web. They require sunlight, water, carbon dioxide and nutrients for photosynthesis.
Phytoplankton are responsible for half the photosynthesis on Earth.

Interactive Read Aloud Plan Details

Questions to Ask Before Reading:	The title of the book is "Ocean Sunlight: How Tiny Plants Feed the Seas." What do you think this book is about? Why? *(Turn and talk, then group share)*
1st Stopping Point Page 2	"All ocean life depends on me; so does all life on land." How do you think all life depends on the sun? *(Turn and talk, then group share)*
2nd Stopping Point Page 6	"Everything is connected." What do you think would happen if there were no Sun? *(Group share)*
3rd Stopping Point Page 7	"But where are the ocean's plants?" *(Group share)*
4th Stopping Point Page 11	Project a photo of phytoplankton or show students the illustration in the book. How can we tell that they're plants? What makes a plant a plant? *(Turn and talk, then group share)*
5th Stopping Point Page 14	Take 2 deep breaths…The oxygen in the 1st breath was from green plants on land, the oxygen in the 2nd breath was from phytoplankton in the ocean.
6th Stopping Point Page 15	"Phytoplankton can grow very fast. It has enough light and nutrients, one phytoplankton can grow and become two in just a day or so. It splits into identical twins!" Why do you think they can grow so fast? *(Group share)*
7th Stopping Point Page 20	How are grass and phytoplankton alike? *(Turn and talk, then group share)*
8th Stopping Point Page 22	"Where do these animals get their food? *(Group share)*
9th Stopping Point Page 28	"How can those deep dark waters—rich with nutrients—rise all those miles back up into the light so the phytoplankton can use them once again?" *(Group share)*
Wrapping Up and Reflecting on the Conversation Page 34	What would happen if the number of phytoplankton decreased significantly? What kinds of factors might influence phytoplankton populations? (*Turn and talk, then group share)*

Source: Janet MacNeil, http://the-curious-scientist.weebly.com/curriculum.html