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Resources List

Ocean Literacy Principle #2: The ocean and life in the ocean shape the features of Earth.	
Resource	Description
Adopt-a-Float (Data Site)	The data from the adopted floats gives a wide variety of data points on the biotic and abiotic features of the Earth. I'm hoping to one day adopt a float with my class and track its data throughout time!
Periodic table of elements in the ocean (Database)	This is a cool resource to give students context that these elements do in fact exist in nature and have an important role in the ocean. The scientific language may be a bit high level even for high schoolers, but this page gives great context to why we study these elements in chemistry.
Sea Level Rise Viewer (Simulator)	The simulator allows students to pick a location and look at predicted data if sea levels were to rise up to 10ft. The model also shows the areas' vulnerability to flooding due to sea level rise.

Ocean Literacy Principle #4: The ocean made the Earth habitable. (I focused on an evolutionary/geologic history angle for this!)	
Resource	Description
The Secret Life of Plankton (Video)	This video demonstrates the scale of phytoplankton and that despite their small size, they are pivotal to the foundation of marine food webs. This video can be used in a discussion of how photosynthetic aquatic organisms produced oxygen to make the Earth habitable for the earliest life forms.
The History of Life at Hydrothermal Vents (Article)	Hydrothermal vents are hypothesized to depict the earliest conditions of Earth when life came to be. This paper provides scientific evidence using fossil data at hydrothermal vents.
The Ocean Throughout Geologic Time (Image Slideshow)	These images are recreations of what was thought to be how the oceans looked throughout geologic history. It is a good representation of what conditions life on early Earth had adapted to and how photosynthesis is an ancient process necessary for life.

Ocean Literacy Principle #5: The ocean supports a great diversity of life and ecosystems.	
Resource	Description
Animals of the Deep (MBARI resource page)	To explore deep sea animal adaptations, this page can be used as an exploration activity where students can research a few of the deep sea creatures and compare and contrast their adaptations to surface animals.
Monsters of the Deep (Lesson Plan)	This lesson plan is a more formal activity on the previous resources' ideas. Focusing on chemosynthesis, students will research adaptations on assigned deep sea animals.
OneZoom Tree of Life (Database)	To truly explore the diversity of marine life and their evolutionary connections, this interactive can be used to explore the different marine phyla and how they are evolutionarily related to each other and other more terrestrial groups.

Ocean Literacy Principle #6: The ocean and humans are inextricably interconnected.	
Resource	Description
Plastic Pollution and You (Unit Lesson Plans)	This is an extremely comprehensive unit plan of lessons about plastic pollution on a local level. I would focus on the last section (Unit 3: Plastic Pollution in Our Water) and utilize the lessons on how plastic pollution travels to ocean systems.
Chasing Coral (Documentary)	This documentary discusses the anthropogenic causes of coral declines over the mid 2010s. The scientific approach and discussion of this shows real life problem solving.
The Benthic Drugstore (Lesson Plan)	This activity prompts students to research and compile a report of the chemicals made by deep sea animals that humans use for pharmaceuticals.

Ocean Literacy Principle #7: The ocean is largely unexplored.	
Resource	Description
Submersible Designer (Lesson Plan)	This engineering design lesson provides a great hands-on activity for students to design a submersible on a small scale and think about the properties of deep sea exploration technology.

The Deep Sea (Interactive)	This scrolling interactive shows how deep the ocean goes and how far, as well as what animals inhabit these layers. It becomes so sparse in terms of marine life as the ocean goes deeper.
Earth's Ocean is 95% Unexplored: So What? (Lesson Plan)	Although this lesson plan is for grades 5-6, it can be adapted for older students. The lesson introduces students to the INDEX/SATAL 2010 explorations and prompts them to do research on other unexplored areas and what they would want to explore.