

## **Marine Ecology Course Outline Detail and Pacing with CLIMATE CHANGE ACIVITIES LINKED**

1 week	Introduction to the Marine Environment Lab: Nautical Charts (pen & paper: 60 min) Lab: Energy Flow Through Ecosystems (hands on: 60 min) Lab: Food Web Connections (pen & paper: 60 min)
1 week	Prehistoric Oceans Lab: Earth's History Timeline (pen & paper: 120 min) Lab: Riding the Ridge (pen & paper: 60 min) Lab: Dance of the Continents (pen & paper: 60 min) Video: Sea Monsters-A Prehistoric Adventure (National Geographic, 2007)
2 weeks	Chemical & Physical Oceanography Lab: Contour of the Ocean Floor (pen & paper: 60 min) Lab: Tears of an Ocean Planet (hands on: 90 min) Lab: Water Density (hands on: 60 min) Lab: Predicting Ocean Currents (pen & paper: 60 min) Lab: Tides (computer lab: 90 min) Video: Tidal Seas (Blue Planet, BBC, 2001)
1 week	Plankton Lab: Plankton Structure & Function (hands on: 60 min) Lab: Smallest Yet Most Important Critters (hands on: 60 min) Lab: Great Plankton Race (hands on: 90 min)
1 week	Benthos & Meiofauna Lab: Shells (hands on: 90 min) Lab: Journey to the Kelp Forest (computer lab: 60 min) Lab: Stream Index (pen & paper: 60 min)
2 weeks	Nekton Part One – The Fishes Lab: Mark & Recapture (hands on: 60 min) Lab: Shark & Ray Classification (pen & paper: 90 min) Lab: Fish Dissection (hands on: 90 min) Lab: Fish Behavior (hands on: 60 min) Video: Fish (Life, BBC, 2009)
2 weeks	Nekton Part Two – The Tetrapods Project: Nekton Lab: Dolphin Safe Tuna (case study: 90 min) Lab: Hot or Not (hands on: 60 min) Lab: Tracking Sea Turtles (hands on: 60 min) Video: Kingdom of the Blue Whale (National Geographic, 2009)
1 week	Deep Sea Biology Project: 20,000 Leagues Under the Sea Lab: Light at the Bottom (hands on: 60 min) Lab: Mapping Deep Sea Features (hands on: 60 min) Lab: Ocean Habitats – The Deep (hands on: 30 min) Video: The Deep (Blue Planet, BBC, 2001)
2 weeks	Intertidal Ecology, Estuaries & Salt Marshes Project: Travel to the NC Coast Lab: Watersheds (pen & paper, 30 min) Lab: Flood Bank (computer lab: 30 min) Lab: River & Stream Systems (hands on: 60 min) Lab: Marsh Madness (hands on: 30 min)

- Lab: Sustainable Coastal Development (case study: 60 min)  
Video: Coasts (Blue Planet, BBC, 2001)
- 1 week Tropical Communities & Symbiotic Relationships  
Lab: Sea Connections (pen & paper: 30 min)  
Lab: Coral Structure & Function (hands on: 30 min)  
Lab: The Truth About Spongebob (computer lab: 60 min)  
Lab: Coral Rocks (case study: 60 min)  
Video: Coral Seas (Blue Planet, BBC, 2001)
- 2 weeks Human Impact  
Lab: Fishing for the Future (hands on: 60 min)  
Lab: Tragedy of the Commons (pen & paper: 60 min)  
[Lab: Where'd the Reef Go](#) (hands on: 30 min)  
Video: Ocean Acidification (NRDC, 2009)  
[Article: Acid Bath](#)  
[Lab: Global Warming & the IPCC Report](#)  
[Article: Agreement at UN Climate Summit](#)  
[Article: How Much CO<sub>2</sub> is Safe?](#)  
[Lab: Pollution Solution](#) (hands on: 60 min)  
Video: Can the Gulf Survive? (National Geographic, 2011)  
[Article: Oceans Could Thrive Again](#)  
[Article: Sea Level Rise](#)  
[Article: Suffocating Seas](#)