Unit 6 Body Plans and Ecology of Marine Tetrapods

Content Area: **Science**
Course(s): **Marine Biology**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

HS-LS2-2	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.
HS-LS4-1	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.
HS-LS4-2	Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.
HS-LS4-4	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
HS-LS4-5	Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.
HS-ESS2-7	Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.
HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Enduring Understandings

Marine vertebrates like reptiles, birds and mammals, evolved from land ancestors and have different adaptations for marine life as a result.

Marine reptiles, birds and mammals are in some cases still tied to land for breeding and can be impacted by a combination of marine and terrestrial threats.

Marine mammals have complex social structures and behaviors.

Human activities have a profound affect on marine vertebrate populations.

Essential Questions

How do marine tetrapod body plans provide insight into the organism's lifestyle and evolution?

Knowledge and Skills

Knowledge:

Harsh terrestrial conditions shaped the evolution of tetrapods from fish.
Adaptations in marine reptiles, birds, and mammals, have helped them be successful in the oceans.
Each marine tetrapod class has evolved in unique ways to living in the marine environment.
Human interactions affect the health and population numbers of marine tetrapods, many of which are endangered.

Skills:

Analyze population data to determine the impact of humans on marine tetrapod populations.

Interpret maps to understand migration patterns.

Plan and conduct experiments to learn more about marine tetrapod lifestyles and adaptations.

Assessments

https://docs.google.com/document/d/1wR7bQF-8AQoRrt0g4C3hKja0yjwDjC9_BiAmONWbTcI/edit?usp=sharing

Modifications

https://docs.google.com/document/d/1ODqaPP69YkcFiyG72fIT8XsUIe3K1VSG7nxuc4CpCec/edit?usp=sharing