Unit 5 Body Plans and Ecology of Marine Fish

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

The most successful vertebrate group are fish.

Fish morphology is related to the individual's life style.

Fish populations are directly impacted by human activities like climate change, commercial fishing and pollution.

All tetrapods share a common ancestor with bony fish.

Essential Questions

How do animal body plans provide insight into an animal's lifestyle and evolution?

Knowledge and Skills

Knowledge:

Fishes are the most successful and diverse of all vertebrate groups.

Fish are paraphyletic which makes them difficult to characterize with specifics.

Fish lifestyles are related to their body shapes in most cases.

Bony fish were the first vertebrates to transition to land.

Fish are an important economic resource.

Human activities like commercial fishing have impacted some fish populations beyond recovery.

Skills:

Evaluate evidence from evolution using homologous structures and DNA evidence.

Create and apply classification strategies to fish examples.

Interpret statistics showing the impact of human activities on fish populations.

Assessments

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

Modifications

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