Unit 4 Body Plans and Ecology of Marine Invertebrates

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

Body plans explain the architecture of an animal as well as some insights into its lifestyle.

There are many species but only a few standard body plans.

Most living things are invertebrates, many of which are only found in the ocean.

Essential Questions

How have body plans developed and changed over time through evolution?

Knowledge and Skills

Knowledge:

Evolution is a key process for the development of new species.

Body plans and adaptations are the results of selective on species from the environment and other populations.

An organisms' body plans and lifestyle are related to each other.

Marine invertebrates participate in many important niches in the oceans.

Human activities are impacting invertebrate populations through climate change, habitat destruction and over-exploitation of marine resources.

Skills:

Scientific diagramming and labelling

Analyzing data on population dynamics

Observation of invertebrate interactions and data collection

Assessments

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

Modifications

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