

## Marine Biology

### I. Enduring Understanding:

Marine ecosystems are connected in a web of life. (1,3,4,5,6,7,8,9)

#### Essential Questions

What are the structures, functions and behaviors / responses of marine organisms?

What characteristics place organisms into specific phylogenies?

#### Student Outcomes: Students will:

- A. Understand the common traits that are used to classify marine organisms.
  - 1. Compare and contrast characteristics of marine organisms.
  - 2. Complete successful dissections of each representative phyla.

### II. Enduring Understanding:

Evolution of the animal kingdom can be seen as you explore the simplest to the most complex marine organisms. (1-9)

#### Essential Questions:

What mechanism promotes change in organisms?

What evidence supports that life on earth has changed?

#### Student Outcomes: Students will:

- A. Understand Darwin's theory of evolution through natural selection.
  - 1. *Identify adaptations for survival that have developed in marine organisms*
  - 2. *Describe variations seen in the anatomy of marine organisms.*
  - 3. *Name analogous structures can be seen in varying classes with in a given phylum*
  - 4. *Differentiate between representative species in a marine environment*

### III. Enduring Understanding:

The coral reef ecosystem is one of the most diverse on earth. (1,2,3,4,6,7,9)

#### Essential Questions:

What is the significance of coral reef formation?

#### Student Outcomes: Students will:

- A. Understand the significance of the symbiotic relationship C between coral and zooxanthallale

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1. Recognize the conditions necessary for coral reef formations
2. Be able to identify different types of coral reef formations
3. Identify some of the coral reef community fauna

### IV. Enduring Understanding:

The human interaction with marine ecosystems has profound impact. (1-9)

#### Essential Questions:

How did ocean currents impact human population movement?

How do humans explore and impact marine populations?

#### Student Outcomes: Students will:

- A. Understand that ocean currents fit a predictable pattern and humans have used these currents to disperse themselves
  1. Analyze ocean currents Kon Tiki
- B. Understand means of exploring the underwater environment.
  1. Demonstrate competency at simple SCUBA skills
  2. Recognize that a basic understanding of physics is necessary to become a competent SCUBA diver
  3. Complete the WASI curriculum
  4. Demonstrate SCUBA skills in the pool
- C. Understand that food web interactions can be disrupted by over fishing.
  1. *Identify marine organisms that are threatened.*
  2. *Explain that the loss of these organisms can be prevented by human intervention.*
  3. *Present feasible solutions for managing threatened species.*