

Panoramic Hydrosphere [MS]

Grades: K-2

Time: 45 minutes to 1 hour

Goals: To use art to identify and classify aquatic organisms and their underwater habitat.

Objectives:

Students will be able to: classify aquatic species as vertebrate or invertebrate; describe different aquatic habitats; create a mural using the art form Gyotaku to depict a specific habitat; and understand how aquatic species survive underwater.

Key Words:

Organism

Ecosystem

Habitat

Vertebrate

Invertebrate

Survival

Saltmarsh

Barrier island

Maritime forest

Estuary

Freshwater

Saltwater

Gyotaku

Morphology

Background Information:

Adapted from Smithsonian Institute Ocean Portal

When Japanese fishermen needed a way to keep track of the number of fish they caught and what species, they would use a technique called Gyotaku. By applying ink to each fish in their catch, covering it with rice paper, and rubbing it thoroughly, they would create a replica of their catch preserved on the paper. When done properly, a lot of details were preserved on the rice paper and over the last century has become an art form, where more color has been used to match the life-like colors of the fish species.

It is also a great way for you to learn anatomy and physiology of certain species, as well as create ecosystem murals, like the ones for this lesson. This prepares you at a younger age to understand body features of different species you may not get a chance to observe in the wild until later in high school. In recent years, the art has morphed from using real fish to using rubber ones, still with as many details as the real species of fish. It has also been altered to include more species than just fish, so you now have the opportunity to view many different vertebrates and invertebrates.

Marine Vertebrates and Invertebrates

Directions: For each column in the chart, write whether each animal is a vertebrate or an invertebrate. Give two descriptive characteristics for each.

| Animal | Vertebrate/Invertebrate | Characteristics |
|----------------------|--------------------------------|------------------------|
| Octopus | | |
| Sea Nettle | | |
| Shark | | |
| Humpback Whale | | |
| Blue Crab | | |
| Sea Star | | |
| Diamondback Terrapin | | |
| Flounder | | |
| Mud Snail | | |
| Sea Horse | | |