



Hands-on Marine Biology Activity 5

Topic and Learning Objective:

Class Gastropoda is one of the most species diverse groups

- DKPCOFGS
 - Do Kids Prefer Cheese Over Fried Green Spinach
- All gastropods have shells
 - Some have been reduced or disappeared when they reach adulthood
- Cephalopods (class)
 - Bilaterally symmetrical
 - Squid
 - Cuttlefish
 - Nautilus
 - Octopus
- Market squid dissection:
 - Caught with the help of lights
 - Night spawners

Alignment with NGSS Grades 3-5

Disciplinary Core Ideas

LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.

Crosscutting Concepts

Systems and System Models

- A system can be described in terms of its components and their interactions.

Materials:

- Squid specimen (1 per pair, ~5 per class)
- Dissection kit (Instructor use only)
 - Scissors
 - Scalpel
 - Tweezers
- Gloves
- Alcohol/sanitizer



- Paper towels
- Dissection tray
- Slides
- Slide covers
- Microscope
- Blank paper
- Pencils
- Colored pencils

Detailed Description:

- Squids will be placed into bowls filled with seawater
- Instructor will point out dorsal and ventral sides of squid to students
 - Students will be given time to draw and label what they see on the external view of the squid
- Radula retrieval:
 - Instructor will help students cut out beak and search for radula
- Students will make a longitudinal ventral cut from the anterior mantle to the posterior
 - The flaps will then be opened and pinned down to reveal the internal organs
- Using tweezers, instructor will help students identify:
 - Heart
 - Gills
 - Ink sac
 - Kidney
 - Sperm/eggs
 - Fins
 - Pen
- Instructor will cut off a small sample of chromatophores to display on a slide
- Instructor will prepare slides on sections of the different organs found within the octopus
 - *if sufficient time is left

How will you conclude the lesson to enforce the learning objective?

- Students will be asked what they thought was the most interesting of the dissection
- Instructor will give a review on the different parts found within the squid for students' drawings



What science process skills will this lesson exercise?

- Observation
- Communicating
- Inferring

Safety precautions:

Essential to check the week before if any of the kids are allergic to squid!

Utilization of scissors, pins, scalpels