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
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