

Life in the Marine Biome

Atlantic Science Teachers Conference

October 27th, 2017

Introductions

- Objectives:
 - To learn about some of the complexities of coastal ecosystems and the interconnections of the organisms who live there.
 - To interact with specimens through an activity that can be replicated in the classroom.
 - To learn about, and gain access to, online resources for learning about Nova Scotia's coastal animals.
- Plan:
 - Presentation and discussion ~30 minutes
 - Activity ~30 minutes
 - Q & A ~15 minutes

Diving in

- What is the marine biome?
 - What is marine and what is biome?



What is the Rocky Shore?



- Intertidal
- Biologically rich
- Often accessible
- A mosaic of rock, mud and sand habitats







Where can you find the rocky shore?



Who lives there? Why?

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Echinoderms

Gastropods

Bivalves

Crustaceans



- Taxonomy
- Lifecycle
- What do they eat
- How do they move
- Examples



Echinoderms and Taxonomy

- Kingdom Animalia
- Phylum Echinodermata
- Classes Asteroidea, Ophiuroidea, Holothuroidea, Echinoidea, etc.
- Order, Family, Genus, Species

Lifecycles – example Sea Urchin



 Generally, egg and sperm released into water, developing into free swimming larva.

• Exceptions: sometimes brooded by female.

Echinoderms & Tube Feet



Echinoderms & Tube Feet



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Gastropods

- Taxonomy
- Lifecycle
- What do they eat
- How do they move
- Examples



Gastropods and Taxonomy

- Kingdom Animalia
- Phylum Mollusca
- Classes Gastropoda, Bivalvia, Cephalopoda, etc.
- Order, Family, Genus, Species

Lifecycles – example Moon Snail



- Separate sexes, direct transfer of sperm.
- Fertilized eggs kept with female until extruded with mixture of sand.

Modified from Amusing Planet, the sand collars of the moon snail

Gastropods





Gastropods

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- Taxonomy
- Lifecycle
- What do they eat
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Bivalves and Taxonomy

- Kingdom Animalia
- Phylum Mollusca
- Classes Bivalvia, Gastropoda, Polyplacophora, etc.
- Order, Family, Genus, Species

Lifecycles – example Sea Scallop



- External fertilization
- Free swimming larva
- Metamorphosis when settled on bottom
- Usually sexually mature by 2nd year



Crustaceans

- Taxonomy
- Lifecycle
- What do they eat
- How do they move
- Examples



Crustaceans and Taxonomy

- Kingdom Animalia
- Phylum Arthropoda
- Classes Arachnida, Cirripedia, Malacostraca
- Order, Family, Genus, Species

Lifecycles – example Atlantic Rock Crab



Modified from Animalia-life; general crab lifecycle

- Separate sexes, molting occurs first
- Female holds onto eggs
- Larval stages
- Metamorophosis

Crustaceans and Movement



"Other" Critters

Sea anemones living on buoy

Sea anemone up close



Vase tunicate

Activity Time!

- 4 stations
- Approximately 5 minutes per station
- Dichotomous key, hand outs, magnifying glasses



Resources through NSM

https://museum.novascotia.ca/teachers

This website also includes information for teachers on:

- Learning with objects
- Bees
- Mona Parsons

Thank you!

Any questions?

