Mass Audubon
Protecting the Nature of Massachusetts

School Program Name:	Squid Dissection
Name of Sanctuary:	Wellfleet Bay Wildlife Sanctuary
Grade Level:	3-5
Location Options:	at school
Time:	45-60 minutes
For more info:	wellfleet@massaudubon.org or 508-349-2615

Program Description

Students actively interact with a dissection of a real squid while investigating squid's taxonomy, adaptations, anatomy & physiology. Students are introduced to laboratory skills and even get to write with the squid's pen and ink!

Massachusetts Curriculum Frameworks

Framework: Science and Technology
Strand: Life Science

Learning Standards

Characteristics of Plants and Animals

- 3-5 Life Science #1: Classify plants and animals according to the physical characteristics that they share.

Adaptations of Living Things

- 3-5 Life Science #6: Give examples of how inherited characteristics may change over time as adaptations to changes in the environment that enable organisms to survive, e.g., shape of beak or feet, placement of eyes on head, length of neck, shape of teeth, color.
- 3-5 Life Science #8: Describe how organisms meet some of their needs in an environment by using behaviors (patterns of activities) in response to information (stimuli) received from the environment. Recognize that some animal behaviors are instinctive (e.g., turtles burying their eggs), and others are learned (e.g., humans building fires for warmth, chimpanzees learning how to use tools).

Lesson Objectives

What will students know and be able to do? These objectives must be observable and measurable.

Students will know and be able to:

- SWBT illustrate 3 external squid "parts" (beak, fin, mantle, etc.) and label what they use each for (standard #6)

- SWBT illustrate 2 internal squid "parts" (gills, ink sac, caecum, etc.) and label what they use each for (standard #6)
- SWBT name the taxonomic group squid belong in and explain why. (standard #1)
- SWBT describe what physical characteristics of mollusks. (standard #1)
- SWBT Describe two different defenses of squid (standard #8)

Vocabulary

- invertebrate
- mollusk
- adaptation
- camouflage
- jet propulsion
- mantle
- internal
- external
- chromatophores

Assessments

How will you know that the students have met the standards?

- Throughout the dissections educator will circulate to ensure each group of students were able to find the correct parts of the squid
- Educator will examine student illustrations checking for 3 external squid "parts" (beak, fin, mantle, etc.), and 2 interal squid "parts" (gills, ink sac, caecum, etc.) as well as the labels about what each part is used for. (standard #6)
- Through a facilitated discussion teacher will listen for accurate responses to questions regarding what taxonomic group squid belong in and explain why (standard #1) as well as descriptions of at least 2 different squid defenses. (standard #8)

Summarizer

How will the Mass Audubon Educator close the lesson to see if students met the objectives?

- Educator will listen to responses to questions about the squid's taxonomy/physical characteristics, adaptations, and defenses.

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Mass Audubon School Programs

At Mass Audubon we strive to create learning experiences that are enriching, innovative, meaningful, and engaging. All our school programs are aligned with Massachusetts Curriculum Frameworks. Our network of wildlife sanctuaries and nature centers located in urban, suburban, and rural communities around the state enable us to have strong relationships with local schools.

Our Education Foundations

- Place-based education is an educational philosophy that connects learning to what is local for an individual. We help build conservation communities, working with students and teachers in cities and towns to develop place-based environmental education that is linked directly to their home community.
- Inquiry-based learning is focused on teamwork, being learner-centered, questioning ourselves and the world around us, providing a more focused, time-intensive exploration, promoting lifelong learning, communication, and learning as fun.
- We are fully committed to creating a positive and supportive environment for all learners.
- We strive to be culturally sensitive, recognizing and embracing cultural differences.

Differentiated Instruction

- We strive to create a positive learning environment that is inclusive, supportive to all learners, and sensitive to cultural diversity.
- Outdoor classroom experiences are structured to meet the needs of the particular learners.
- Students work in small groups using hands-on materials.
- A variety of educational media are used, including colorful illustrations.
- With advance notice, efforts will be made to accommodate all learning styles and physical needs.

Notes

- Nature exploration is dependent upon the weather and other conditions. A class might observe different wildlife than they expected to see. An outdoor lesson can sometimes provide unexpected, but enriching teachable moments on a natural history topic that was not planned.
- Mass Audubon nature centers each have a unique landscape and will customize programs to work best at their particular site.
- Our lessons can be adapted to incorporate a classroom teacher's needs.