

PAWS AND CLAWS, BEAKS AND FEET

Grades 2 - 3

NJCCCS: 5.1, 5.3, 5.4

Field Trip Overview:

Students will be introduced to the term adaptation. Next, students will observe some of our marsh creatures and identify their special adaptations that help them to survive in the salt marsh. Through hands-on investigation, students will visit six workstations to identify unique adaptations that animals living in a salt marsh habitat possess. Students will create a brochure featuring a group of organisms in a food chain.

Background Information:

Adaptations are specialized characteristics that plants and animals develop over time in response to environmental pressures. Adaptations may be physical features or specialized behaviors. These tools enable the plant or animal to survive in specific conditions. Adaptations come in many forms. For example, they might help an animal compete for specific kinds of foods; enable locomotion in air, water, trees, and on lands; or provide protection through color (camouflage), armor (shell), or the ability to fight or flee.

Three quarters of Earth is covered with water and many plants and animals live in water-dominated habitats such as wetlands. These living beings have a variety of remarkable strategies for wetland survival. Developed over time, these adaptations help wetland residents make use of available nutrients and energy, protect species against enemies, and cope with different climates.

There are many examples of how animals are suited to live in wetland environments. For example, fish have streamlined bodies and fins to help them maneuver through water. Ducks have webbed feet for swimming and oily feathers to keep them from getting soaked. Behavior patterns are also examples of ways animals have adjusted to wetlands. Migration patterns of birds correlate with wetlands areas, which they utilize for food and resting spots. Group behaviors are also adapted to increase the chance of survival. For instance, Atlantic Silversides swim together in large schools to avoid falling prey to predators. As the small fish and turn in unison, predators have a difficult time targeting a single fish.

Vocabulary:

Adaptation: a feature or behavior a plant or animal has that helps it to survive

Brackish: a mixture of fresh and salt water

Camouflage: the way a living thing hides itself or blends in with its natural surrounding or environment

Estuary: a habitat where the river meets the sea and creates brackish water

Wetland: area covered by shallow water, and/or moist soil, and has plants adapted to living in wet conditions (i.e., swamps, bogs, marshes)

Habitat: environment that provides food, water, shelter, and space for plants and animals to live

Protection: how a living thing defends itself from predators and other dangers (i.e., sun, wind, water)

References / Resources:

- Alliance for New Jersey Environmental Educators (ANJEE).
<http://www.anjee.net/>
- Environmental Protection Agency: America's Wetlands.
[EPA: America's Wetlands](#)
- New Jersey Audubon Society's Bridges to the Natural World. Kane, Patricia F., Rosselet, Dale A., Anderson, Karl, and Schierloh, Jerry. Revised edition 2003. Alcom Printing Group, Inc., Harleysville, PA.

PAWS AND CLAWS, BEAKS AND FEET
Pre-Trip Activities

1. The Salamander Room:

Read to the class The Salamander Room by Anne Mazer. Discuss: What kind of space did the boy provide? What four basic components of a habitat did the boy provide? Which animal species lived there and why? Brainstorm and list on the blackboard. Connect the book to the environment around the school. Brainstorm different habitats around the school. List on the board, i.e. a tree, a creek, forest, wooded area, beach. Choose a habitat to explore. Ask the students "what can we look for to help us discover what lives in our school yard habitat and what clues can we look for?" List all the students' answers on the board. As a class go to the habitat. Establish an area of exploration that is fairly small in scope (school yard works best). Assign children partners and give each pair one baggie to collect clues that may tell us what plants and animals may live in this habitat. If the clues are still alive, draw a picture, describe it or take a photo with a digital camera. Establish a time limit. Return to the classroom to discuss what clues each pair has found.

Assessment Opportunity: On chart paper, glue the clues and draw/list what animals and plants may have lived there. Have the students explain what each clue is and how it relates to a plant/animal.

References/Resources:

Mazer, Anne. *The Salamander Room*. New York: Knopf, 1991. Print.

2. Habitat Adventure:

Students will use the Internet to: Define a specific habitat, list at least five characteristics of that habitat and find a picture of the habitat studied.

Assessment Opportunity: Students will pick one of the following to create a representation of their habitat: diorama, mobile showing animals and/or plants, collage of pictures of the habitat or a scene or drawing on oaktag illustrating life in the habitat.

References/Resources:

[Habitat Adventure](#)

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Post-Trip Activities

1. Animal Fact Cards:

Have students choose one animal species that lives in a wetland as a subject for their fact cards. Next, instruct children to look up facts about their animal in nonfiction books, an encyclopedia or the Internet. On one side of the card, children can draw a picture of the animal in its natural habitat. On the other side, children can list three facts they have found out, including the habitat of the animal, what it eats and one adaptation that animal has. Children can post their cards in a display or use them to play matching games. One idea is to have the students write a riddle describing their animal. Instruct them to include at least one adaptation.

Assessment Opportunity: Have the students get into groups of four and have each student read their riddle. The group members should try to match the riddle to the picture.

2. Animal Travel Brochure:

Have students research an animal that is adapted to living in the salt marsh and then have students use a computer to create a travel brochure for that animal urging it to come to visit the Meadowlands Salt Marsh. Encourage students to use text and pictures. The brochure should indicate whether the animal is a permanent or temporary resident and explain why the Meadowlands Salt Marsh is particularly suitable for the animal. Lastly, have the students describe features that are appealing for that animal's adaptations.

Assessment Opportunity: Have each student present their travel brochure to the class.

References / Resources:

Adapted from "Saltiness of Time"

[Saltiness of time: A Salt Marsh Webquest](#)