Birds of Michigan

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Target Grade/Subject: 4th, Science

Duration: One class period to build birdhouses, one day field trip to Belle Isle Nature Center

Lesson Overview: After making birdhouses, students will visit Belle Isle Nature Center to observe and hang houses in wooded area around the site. This trip will help prepare the students for our overnight camping trip. They will be able to listen and recognize bird sounds and attributes.

Sources Consulted:
Mike Reed, Belle Isle Nature Center;
Jennifer Edwards, science teacher;
Mike Mansour, Hawk Woods Nature Center.

Hands - On Nature, Vermont Science Institute of Natural Science

Grade Level Content Expectations:
S.IP.04.11,S.IP.04.14,S.IP.04.15,L.EV.04.21,L.EV.04.21,L.EV.04.22,L.EC,L.EC.E.2

New Vocabulary: adaptation, feathers, beak, habitat, predator, prey

Focus Question:
- What special physical adaptations do birds have?
- What are some ways other than migration that birds meet the challenges of winter?
- How do feathers heal birds?

Materials: Birdhouses, bird seed, bird field guides, binoculars

Activities

Focus on Feathers
Give each child a feather or two to examine. If possible, include flight, contour, and down feathers.

a) As the children describe the parts of a feather, the leader draws them on the blackboard to illustrate a typical feather. Make sure to note the hollow shaft. What differences do the children notice between their feathers? What functions do feathers perform?

b) Have the children gently pull apart the web of the feather. Use a hand lens to see the tiny barbules that project from the barbs. What function might these serve? Have the children try to zip feathers together by pinching and drawing their fingers along the separated barbs from the shaft to the outer edge. Discuss how birds oil and groom themselves.

Mix and Match
Give each pair of children a picture of a bird. Ask them to look at the shape of the bird’s beak, feet, legs, and with a partner talk about how the bird might use these to obtain food and eat it. Spread out the pictures of possible bird foods. Ask the children to place their bird picture next to an appropriate food. More than one bird may eat the same...
kind of food, and one kind of bird may eat several kinds of food. How do the beaks and feet enable the birds to obtain and eat their food?

Some possible combinations:

Owl – mouse; Hawk – snake; Eagle – fish; Sparrow – seed; Robin – worm; Crow – corn;

Swallow – flying insect; Gull – mussel; Heron – crayfish; Loon – fish; Finch – seed; Bluebird - insect; Pelican – fish

Pick a Beak
Set out an assortment of foods in different containers. Brainstorm ideas for what kind of bird food each might represent. (For example, rice grains on a plate would be crawling insects, and cooked spaghetti in a cup might be earthworms.) Give each child a different “beak” utensil and ask the children what foods they might eat, given the designs of their “beak”. Have them try to find the foods they can pick up using only their “beaks”. Discuss the advantages and disadvantages of specialized beaks.

Materials:
- Utensils and tools, such as various forks, spoons, tweezers, tongs, straws, nut picks, nut crackers
- Foods in various containers, such as sunflower seeds in a tall jar, rice grains on a plate, jelly beans under shredded paper, grapes floating in water, cereal in a bowl, a whole apple, orange juice in a thin necked bottle, corn on the cob, nuts in the shell, oatmeal on sandpaper

Fly Away or Stay?
Objective: To illustrate that a bird’s food requirements may determine whether or not it migrates.

Have each child pretend to be a bird. Pass out “You eat” cards. Some possible foods are mosquitoes, worms, berries, fish in small ponds, squirrels, caterpillars, frogs, nectar, ants, fish in streams, seeds, mice, snakes, rabbits, grasshoppers, insects under bark.

Each child says what it eats, whether or not that food is available in your area in winter, and whether or not it will migrate.

Materials:
Cards with “You eat...” written on them and the name and/or the picture of a food

Field Trip to Belle Isle Nature Zoo
First we had a presentation from the staff at the nature center about birds and looked at several examples. We then went on a walk to look for birds and signs of them. We hung up birdfeeders and watched for the birds to arrive. We used bird identification guides to help us determine the type of birds we saw. We wrote about the experience when we returned to school.

Assessment: My assessment was of the written explanation from the students.

Special Tips: Placing the students into small groups with an adult leader would enhance the experience.
Bird Watching at Belle Isle

Rubric

You are to write a paragraph about what you learned while bird watching at Belle Isle. You must include a topic sentence as well as three sentences describing what you learned or observed while on the filed trip. 1 = Poor; 2=Fair; 3=Good, 4 = Best.

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