

SUSAN EDWARDS RICHMOND: BIRD COUNT ACTIVITY PLANS

How Does Your Beak Work? (Science and Technology)

Description and Goals

Children will use a variety of implements to simulate the mechanisms of different bird beaks, matching five mechanisms to the corresponding kind of bird and food. This activity encourages children to explore how birds use their beaks as tools to capture, open, and consume food, and to compare the use of technology by animals and humans. They will also learn about adaptation in nature and practice fine motor control.

Developmental Areas and Skills: Cognitive and Physical Domains

Curriculum Standards and Guidelines

Guidelines for Preschool Learning Experiences (MA Department of Education):

Science and Technology/Engineering Standard 26 (Technology and Engineering). Observe and describe ways that animals, birds, and insects use various parts of their bodies to accomplish certain tasks and compare them to ways people would accomplish a similar task.

Next Generation Science Standards

K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Objectives

- Children will be able to manipulate 2 or more tools to collect a variety of substances.
- Children will be able to match at least 2 tools with the bird whose beak uses a similar mechanism.
- Children will be able to describe how at least 1 bird uses its beak to capture food.

Materials

- Several pairs of each tool and the substances to be collected in the following pairs: scissors—packing peanuts, slotted spoons—small plastic beads in a basin of water, pipettes—a clear plastic cup of colored water, toothpicks—raisins, and tweezers—sunflower or other seeds.
- Photos of the following birds, highlighting the beaks as much as possible, and photos of their food.
 - Hawks: capture mice or other small animals. Matched with scissors and packing peanuts.
 - Surface feeding or dabbling ducks (for example, mallards): scoop and drain water with their bills. Matched with slotted spoons, beads, and water.
 - Hummingbirds: sip nectar from flowers. Matched with pipettes and colored water.
 - Herons: stab fish or frogs. Matched with toothpicks and raisins.
 - Goldfinches or cardinals: pick up seeds. Matched with tweezers and seeds.

Introduction

Remind children that they have seen a variety of birds that eat different foods. Ask:

- *Who can guess what a hawk eats?* (mice, frogs, snakes, or other animals)
- *Who knows what a hummingbird eats?* (flower nectar)
- *What does a bird have instead of lips?* (beak)

Explain that in order to eat very different foods, birds need very different beaks. These beaks function like tools. Tell children that today they will explore how different kinds of birds use their beaks to eat.

Procedure

1. Advance Preparation: Set up of 5 stations with 5 sets of materials.
2. Introduce Activity (above).
3. Break children up into five groups and start each group at a different station.
4. Encourage children to look at the picture of the bird and its beak at each station. Ask:
 - *How might this tool be similar to the bird's beak?*
5. Have children use the tool to pick up the food facsimiles at the station. Ask:
 - *What is it like to use this tool?*
6. Encourage and record children's comments and questions.
7. Repeat Steps 3 through 5 until children have rotated through every station.

Conclusion

Hold a brief circle to capture any additional impressions children have from the activity:

- *Which bird do you think has to work hardest for its food? Why?*
- *Which bird do you think would have the easiest time finding food? Why?*
- *If you were a bird, would you be a hummingbird, hawk, heron, duck, or finch? Why?*

Tell children that on their next nature walk, they can look for different birds using their beaks as tools, or identify some of the foods the birds might eat.

Accommodations

To accommodate shorter attention spans, have all five "stations" available at the same table, and facilitate children trying fewer tools, or rotating through them more quickly. You may wish to have this as a choice activity during free play, so children can choose how long they wish to explore different beak mechanisms.

Evaluation

One measure of success is if children can manipulate some or all of the tools to capture "food." Another measure is if children are able to match 1 or more tools to the corresponding bird and beak. A third measure is if children can talk informally about how at least 1 bird uses its beak to capture food. If children meaningfully answer questions asked during the Conclusion, the activity will have exceeded expectations!

Family/Community Engagement

Share photos of the activity, along with children's questions and comments in a newsletter, or set up bird beak stations at a community night and encourage children to "teach" their families how to do the activity.