

Classroom Activity: Bird Migration Game ©1999 Carolyn Johnson

Goal: To introduce the concept of migration, why it occurs and the importance of food availability to migrating birds. To introduce connectivity of habitats of the Laguna to the rest of the Pacific Flyway.

Set-up: Put out all **bird food pieces** except: all acorns, 6 mice, 4 seeds. (Keep those aside for distribution during the game).

Place **Bird Cards** face down in front of each student.

Mother Nature Cards need to be in the following order:

1. Oaks make lots of acorns 2. Increase in mouse population 3. No rain, Drought year 4. Early freeze 5. Big winter flood (6. Fire in the Laguna, *this card is optional depending on the number of students*).

Explanation to students: This is a game about bird migration. Ask, "Does anyone know what migration means?" Answer: *animals move from one place to another. Not only birds migrate (deer, elk, whales, even sharks), but today our game is about birds. "Why do birds migrate?" Answers: *they leave northern climates to escape cold, but more importantly to find greater food availability.**

Direct students to turn over their bird cards. Point out the following:

A. **Migration timing:** Some birds migrate during the day (thus the **sun** on the card) and others at night (the **star** is on the cards because the birds use the stars to navigate at night). Some birds do not migrate at all (thus the cards **without** a sun or star).

B. **Fat points:** In order for birds to migrate they must accumulate fat points for their long journey. "Why is body fat important?" *Fat is like gas in the car, it gives the birds energy to fly. The amount of body fat a bird must have depends on how far they migrate. Point out the different amounts of fat points listed on the different bird cards, and how it is related to the distances they migrate shown by the red arrows on the maps. (This can include a discussion about how some birds spend their summers in Alaska and Canada where it becomes very cold, so they may migrate to the Laguna where there is more food, while others summer in the Laguna but go south to Mexico or even South America-to spend the winter).*

C. **Food types:** On each student's card are pictures of the different types of foods eaten by each bird. Not all birds eat the same thing. *Direct the students to look around to other student's cards and point out the variety of things birds eat.*

D. **Object of the game:** To acquire enough fat points so that your bird will be able to migrate at the end of the game. *(Docent should point out that different food pieces represent different amounts of body fat. You can go through the different food types on the cards and name each so that they understand the pictures if you think that will be helpful).*

Begin the game by having one student draw the first Mother Nature Card. They can read it aloud or the docent can help.

To end the game: everyone adds up their fat points and docent goes around the table to each bird to determine if it is enough to migrate. Those who can migrate are given a star or a sun, the non-migrants get a bird nest symbolizing that they survived the winter to nest in Spring. The game is designed so that all birds survive, although the woodpecker and hummingbird had to skip a turn. Discuss the problem with migrating without sufficient body fat and that if they cannot find food along the way they may starve. Discuss the difference between a generalist and a specialist by comparing the scrub jay (generalist) to the Allen's hummingbird or acorn woodpecker (specialists). Ask if humans are generalists or specialists.

MOTHER NATURE CARDS

OAKS MAKE LOTS OF ACORNS

(Place all acorns on table. Direct those with acorns on their card to take two acorn pieces. (acorn woodpecker and scrub jay take 2 acorns)

Everyone else gets to take one food piece that matches the food on their bird card. *Docent should point out the different fat content of the different foods and make sure each student actually draws food.*

INCREASE IN MOUSE POPULATION

(Place remaining mice in center of table). (hawk takes 2 mice)

however, mice eat all the acorns

acorn supply is wiped out *(Remove acorns from table center).*

Everyone else takes one food piece that matches the food on their bird card.

NO RAIN, DROUGHT YEAR

ponds dry up

no fish available *(Remove fish)*

no frogs available *(Remove frogs)*

no aquatic habitat or plants *(Remove wetland plants)*

however, plants produce more seeds than normal in a drought

(Place remaining seeds on table).

Birds with seeds on their cards take 2 seeds each--*(duck & jay)*. Everyone else gets to take one food piece that matches the food on their bird card.

EARLY FREEZE

all the berries and flowers freeze

and insects disappear

(Remove all berries, flowers & insects)

Everyone gets to take one food piece that matches the food on their bird card.

Birds may not be able to eat if they can't find food. *(Acorn woodpecker and hummingbird)*

BIG WINTER FLOOD

Mice, earthworms, and seeds are covered by water

(Remove mice, earthworms and seeds)

however, fish return, more aquatic habitat and plants available

big mosquito & frog hatch

(Place fish, aquatic plants, frogs and mosquitoes back on table). Birds with these foods on their card get to pick two food pieces *(pelican, duck, hummingbird, scrub jay, woodpecker)*. Others get to take one food piece that matches the food on their bird card.

FIRE IN THE LAGUNA (This card has been eliminated)