



✓ Pre-Visit

✓ Field Site

Migration Game

Appropriate Grade: 2-8

Background Information:

Golden-crowned Sparrows spend the fall, winter, and early spring throughout the western United States. They are commonly found in Oregon and California during these months after spending the summer in the tundra of Canada and Alaska. They arrive in the first two weeks of September and can be noticed by their unique, mournful song 'oh dear me' heard in the forest, parks, and shrubby areas. These sparrows are easily seen feeding on seeds and insects on or near the ground often in flocks with other Golden-crowned, Song, and White-crowned Sparrows. Many of the birds seen at this time were born the previous summer. These birds have completed their migratory path avoiding countless dangers, and are encountering people, cars, and buildings for the first time! How do they do it?

Materials Needed:

- laminated station cards (in kit)
- laminated number options (in kit)
- four paper sacs, hats, or other containers for holding the number options at each station
- optional: map of the Pacific states

Scientists are not even sure how birds can do this. That's part of the mystery of birds. But there are three ideas that most scientists agree on:

1. They use the stars, like a road map, to navigate, . Migrating at night they read the constellations to find their way north or south.
2. They use visual landmarks like rivers, ocean coast lines, or mountains.
3. Similar to using the stars, some scientists believe birds use the sun to guide them north or south as the earth changes position throughout the day.

There are other ideas, and birds probably use a combination of these methods.

Knowing which way to go is just half the challenge of migration. What about the dangers they may face? Here are some of the challenges birds face:

1. food- refueling-need enough energy. Storing fat. Stop over- like truckers at a rest stop along a highway
2. windows- glass surfaces are often hard to see causing bird to collide into glass
3. storms- extreme weather causing them to be blown off course
4. predators
5. Loss of habitat



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Learner Objective: The student will describe why birds migrate and will list verbally three explanations for how birds find their way during migration, and one obstacle they must overcome.

Procedure

Before you play the game:

1. Prepare materials: Calculate how many of each number are needed for students to draw out of the paper bag. About 50% of the students should not make it to the end of the game. Since there are 4 stations where some students will drop out of the game, divide the 50% by 4. Have about 1/4 of the remaining students held back at each turn. How many of each number you put at each station depends upon how many students you have.
2. Set up the stations. Spread out the cards. You can affix them to trees if conducting outside, or on chairs or benches if inside. Try to have at least 30 feet between each station, however, the farther apart the better. Place a brown paper lunch bag with the correct combination of numbers at each station. If you are doing this on cement, you can draw a large outline of the pacific coast from Alaska to Oregon to give students an idea of the coastline.

To Play the Game

1. Introduce students to the Golden-crowned Sparrow and migration. Read to them the background information on bird migration. Tell the students you hope that by the end of the game they will understand some of the threats and challenges birds face while migrating.
2. Station 1: Read the story on Station 1 while showing students the map of Alaska. Have students choose an option from the bag. Once everyone has their options, read the option cards. Have students put their numbers back in the bag before they move on, so we don't lose them.
3. Station 2-5: Repeat the same procedure for each of the stations. As students drop out of the game, have them take over reading the cards to keep them engaged.
4. Once completed, have students group to discuss the game. With older students, calculate what percent died and what percent were delayed. For review, ask students to name some of the threats and challenges.

Further Study

This is a good introduction to bird migration. Watching some or all of the video *Winged Migration* is a good follow up. You can rent this video from local video stores or check it out from the library.