



# 2020 Outdoor School

Calapooia Watershed Council

**Title:** Bird Migration Challenge

**Grade:** 4-6

**Duration:** 65 Minutes

**Location:** Home, Classroom, Gymnasium, Yard

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## **Objectives: Students will**

- Identify challenges and resource needs that Vaux's Swifts face during migration by reviewing an information handout.
- Reenact swift migration and resource changes over time by roleplaying as a flock of swifts through a migration obstacle course.
- Assess the changes in resources and its effects on the swift migration by graphing the results of the obstacle course rounds.
- Brainstorm new ideas to maintain resources for swifts during migration in a group discussion.

## **Materials:**

- Masking/Painter's Tape
- Chairs
- Plastic Wrap
- Poker Chips/Pennies
- Paper and writing utensils
- Vaux's Swift Handout

## **Preparation:**

- Review Background Information & Vaux's Swift Information Sheet
- Print out or have the Vaux's Swift Information Sheet available to read on a computer/tablet for student(s)
- Set up the initial migration course using pennies and tape
- Add and remove items to the course as needed according to lesson instructions



<p><b>Introduction</b> (5 Minutes)</p>	<p><b>Hook:</b> Where is the farthest you have ever travelled?</p> <ul style="list-style-type: none"> <li>● Ask students what they did to prepare for the trip, where they were going, what did they need to survive on the trip?</li> <li>● Share with students that many different organisms travel for a variety of reasons such as finding a new home/territory and migration. Unlike people though, most organisms don't get to bring along supplies as they travel. They have to rely on resources that they find.</li> </ul>
<p><b>Body</b> (50 Minutes)</p>	<ol style="list-style-type: none"> <li>1. Introduce students to the Vaux's Swift by passing out the information handout.             <ol style="list-style-type: none"> <li>a. Have students review the handout and share what they read about Vaux's Swift migration.</li> <li>b. Ask students what types of resources do the swifts rely on to reach their migration destinations? (shelter, food, etc.)</li> <li>c. Ask students what types of threats might swifts face today? (predators, windows, no shelter, etc.)</li> </ol> </li> <li>2. Share with students that we are going to demonstrate this today through our own <u>migration obstacle course</u>.             <ol style="list-style-type: none"> <li>a. Lead students to an obstacle course (set up before the lesson)</li> <li>b. The obstacle course will consist of scattered masking tape circles on the floor to represent old growth snags (dead trees), poker chips/pennies to represent insects, chairs with plastic wrap to represent windows, and a starting and end zone</li> <li>c. The goal is to have students make it across the course with at least two pennies per student</li> <li>d. Ask for 1-2 volunteers to represent Merlins, small falcons that prey on Vaux's Swifts. They are allowed to capture (tag) swifts when the flock is not in a circle. (If merlins become too good, you can limit the number of swifts they catch between circles)                 <ol style="list-style-type: none"> <li>i. If you are at home with only 1 student, you can act as the Merlin</li> </ol> </li> <li>e. If a swift is caught by a Merlin, hits a window, or did not catch an insect during migration they die and must try again.</li> <li>f. There are a total of 4 rounds. Each round has 3 migration attempts. (More attempts can be made, but</li> </ol> </li> </ol>



	<p>there must be the same number of attempts per round)</p> <ol style="list-style-type: none"><li>3. Instruct students on the rules of the course and record the number of rounds where the swift survives.<ol style="list-style-type: none"><li>a. The <u>first round</u> challenge course should only consist of a start and finish line, scattered poker chips/pennies, and taped circles on the floor to represent old growth snags (dead trees). Record the number of times out of 3 attempts that students are successful.</li><li>b. During the <u>second round</u>, remove several circles because humans have moved into the area and are taking over the old growth forest. Have students run the obstacle course, and record the number of times they are successful.</li><li>c. During the <u>third round</u>, remove more circles, but tape down a few squares to represent humans building houses with chimneys. Introduce chairs with plastic wrap at this time to represent windows. Again, record the number of successful migrations.</li><li>d. During the <u>fourth round</u>, remove more of the original circles and a couple of the squares. This represents modern times, when roosts are becoming more scarce. Modern chimneys today are capped or don't provide a rough surface for swifts to hang onto. Record the number of successful migrations.</li></ol></li><li>4. Share the data collected from each round with the students.<ol style="list-style-type: none"><li>a. Have students graph the data individually</li><li>b. X axis: Different migration rounds, Y axis: Migration success</li></ol></li></ol>
<p><b>Closing</b> (10 Minutes)</p>	<p>After graphing the data, ask students:</p> <ul style="list-style-type: none"><li>● What happened over time with the obstacle course?</li><li>● What was the hardest part of migration for you as a swift?</li><li>● Which round was the most successful? Least Successful?</li><li>● What do you think we as humans can do to help swifts today and in the future? (provide example of keeping the older chimneys as a roost, people using decals on windows)</li></ul>



### **Modifications:**

- During inclement weather, the migration course can be taught inside.
- For students with limited mobility, they could walk or wheel through the course, not run. The person playing the Merlin can only walk or hop on one foot.
- If time is limited, lessen the obstacle rounds. Just be sure to get the main point across of how humans have affected swift roosts over time.
- To play again, have students research other migratory birds and what their obstacles and needs might be during migration.

### **Background Information:**

Vaux's Swifts spend the winter in Venezuela, Central America, and Mexico. In spring, they migrate north to breed in northern California, Oregon, Washington, and British Columbia, Canada. They return to the south in the fall. Unlike most birds, their feet don't have a "thumb" so they rarely perch on wires or twigs. All of their toes are forward facing, so they perch vertically, using their toes as a hook. They stay in the air without resting all day and can eat up to 20,000 insects daily before finally roosting for the night. They need rough vertical surfaces for roosting such as hollow trees or chimneys built before the 1940s. Newer chimneys have cement liners that are too smooth for them to grip. They also need to huddle in a group to stay warm during the night. Logging practices have drastically reduced the availability of large trees needed for roosting and humans are capping or removing old chimneys that are no longer in use. Their population has been in decline since the 1980s.

Currently, environmental organizations like the local Audubon Societies and Vaux's Happening are working to protect swift habitat and preserve current roosts, including chimneys. More research is needed today to fully understand the natural history of Vaux's Swifts. By counting and monitoring swifts during migration, we can gain a better understanding of this unique bird species. Researchers are also testing artificial nest boxes and roosting structures to assist swift populations.

There are a lot of great places to visit in the spring and fall to watch migrating swift roosts. Some examples of places to check out are the Agate Hall Chimney in Eugene, Hedrick Middle School in Medford, and Chapman Elementary in Portland.

<https://www.vauxhappening.org/>



Merlin (Falcon) Information:

[https://www.allaboutbirds.org/guide/Merlin/?\\_hstc=161696355.af583f1211dface68385aa9642906852.1584466962150.1585244807284.1585782577184.3&\\_hssc=161696355.2.1585782577184&\\_hsfp=786135133#\\_ga=2.190719083.1142806477.1585782577-735894234.1584466961](https://www.allaboutbirds.org/guide/Merlin/?_hstc=161696355.af583f1211dface68385aa9642906852.1584466962150.1585244807284.1585782577184.3&_hssc=161696355.2.1585782577184&_hsfp=786135133#_ga=2.190719083.1142806477.1585782577-735894234.1584466961)

Videos:

<https://www.pbs.org/video/oregon-field-guide-vauxs-swift-chimneys/>

<https://www.youtube.com/watch?v=brcZDhw646o>