

# Swallow That Mosquito

**Subject:** Science

**Duration:** 45 minutes

**Location:** Classroom / Outdoors

**Key Vocabulary:** Mosquito, predator, prey, pesticide, interrelationships, food chain, food web

**Related Activities:** Population Interaction; Create A Food Chain

**Florida Sunshine State Standards:** SC.4.L.17, SC.5.L.15, SC.6.L.14



**Objectives:** The students will be able to explain a) the predator/ prey relationship between swallows and mosquitoes, b) the effect humans can have on the natural cycle of mosquitoes and therefore swallows, c) why national parks choose not to spray for mosquitoes, and d) ways in which humans can learn to cope with mosquitoes.

## Materials

- Poker chips (at least 5 per student)
- Optional: bird books from library with pictures of swallows

**Method:** Students will play an active game imitating swallows going after mosquitoes.

**Background:** Swallows are birds specifically adapted to fly all day long, catching flying insects “on the wing.” A common prey item for swallows is the mosquito. Swallows may feed upon hundreds of mosquitoes during a day. Some swallows are migratory, living in North America during the summer, then flying south for the winter. Swallows can be identified by their highly maneuverable style of flight (i.e. lots of turns and twists) and their short pointed wings.

## Suggested Procedure

1. Show students pictures of swallows from library books, or the illustrations on the next page. Point out their identifying characteristics.
2. Pair up students, and have them stand in two lines facing their partner. The two lines should be approximately 15 feet apart.
3. Inform students they are all now swallows. To survive they must capture their food in the air. Their food is mosquitoes represented by the poker chips.
4. Students in line 1 will be swallows first. Line 2 will be the food providers. Pass out five poker chips to each student in line 2. Instruct line 2 to toss “mosquitoes,” one at a time, to their swallow partner. Each swallow must catch at least one mosquito to survive. The mosquitoes that fall on the ground survive and breed creating more mosquitoes. Record the number of swallows that survived.
5. Repeat step 4, switching the “swallows” and the “food providers.” Record the number of swallows that survived. Explain that in nature, populations are basically stable, some critters die off providing food for other animals, others survive perpetuating their species. They live in balance.

6. Prepare students for something great to happen. You're going to spray for mosquitoes in your neighborhood, because the humans don't like them. Isn't this great? You'll never get bitten outside anymore, you won't have to itch all day at school. Mosquitoes are nothing more than annoying pests, right? Your pesticides kill off 80% of the mosquito population, leaving 20%.
7. Pass out one poker chip to each student in line 1. This is the number of mosquitoes left after spraying the pesticides. Swallows still need to catch at least one mosquito to survive. Have line 1 toss the mosquito to line 2; record the number of swallows that survived.
8. Repeat step 7, switching the swallows and the food providers. Record the number of swallows that survived.



## Evaluation

Summarize by briefly discussing the game. Do you think this is an accurate representation of what happens? If we had succeeded in killing all the mosquitoes what would have happened? When we spray pesticides are mosquitoes the only thing affected? What else? [Some pesticides (DDT) effected the ability of birds like the bald eagle to reproduce.] Do you think that these effects eventually are felt by humans? Brainstorm ideas on how humans can live with mosquitoes (clothing, behavior changes, tolerance, appreciation).

