

# Mosquito Swat

Students will learn why the mosquito is an important part of the Everglades food chain.

## Objectives:

Students will state two reasons why the mosquito is important in the Everglades ecosystem and will be able to draw a five part food chain.

## Materials:

Three copies of the Mosquito Swat Picture Page included in this activity and an area where students can run.

## Methods:

Play as a game of tag.

## Subjects:

Art, Science, P.E.

## Duration:

30 to 45 minutes

## Location:

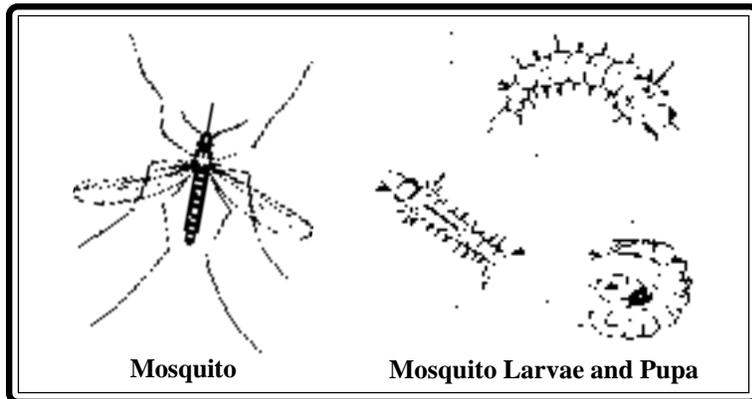
Outdoors, cafeteria, or gym.

## Related Activities:

Web of Life, Chaos To Order, Food Chain Mobile

## Florida Sunshine State Standards:

SC.G.2.2.3



## Background

For most people, mosquitoes would probably be one of the last species of wildlife they would think about saving. Mosquitoes can be unbearable in the shade of Everglades hammocks or near the saltwater mangroves, especially during the rainy season.

There are many different species of mosquitoes found in the Everglades. Freshwater mosquitoes are found in shady hammocks, and in and around ponds, lakes, sloughs, and swampy areas. Fortunately, the freshwater mosquitoes are not as voracious as the salt marsh mosquitoes, which are smaller and are primarily found in and adjacent to mangrove forests.

Even though the mosquito is annoying to most people, it plays an important role in the Everglades food chain. Mosquito larvae are at the base of the food chain. In fresh water areas, they are a primary source of food for the mosquito fish (*Gambusia*), which in turn are food for medium size fish such as the blue gill and bream. These fish are food for still larger fish, including the largemouth bass and the garfish. The bass and the gar are a food source for the alligator and a variety of birds in the Everglades, as well as humans.

When the mosquito population gets heavy during the rainy season, pesticides are used in many cities to control mosquitoes. Until it was banned in 1972, DDT was a primary chemical used in many pesticides. Today, other chemicals such as malathion are used. Scientists are not sure what lasting effects these chemicals have on wildlife and the plant kingdom, as well as on the human population.

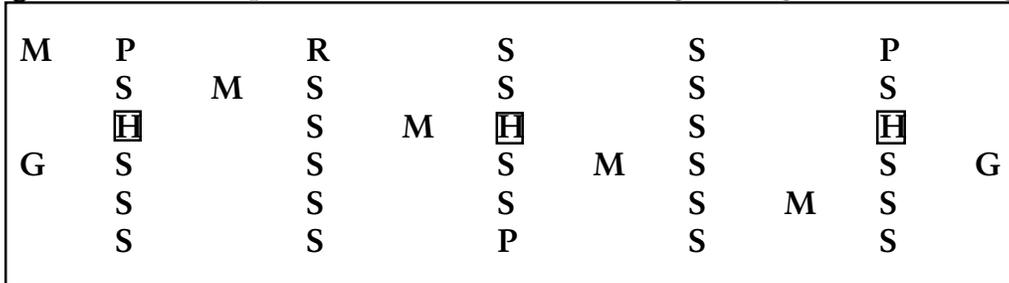
## Procedure

1. Discuss above background information with students.
2. Make three copies of the Mosquito Swat Picture Page, cut out,

and laminate. Give 14 students the following pictures to wear: 5 Mosquitoes, 2 Gambusia (mosquitofish), 3 Humans, 3 Pesticide pictures, and 1 picture of a can of mosquito Repellant. The remaining students will represent the slough -S.

3. Use the "Slough" diagram below to set up this activity. Spread your students out finger tip to finger tip utilizing the following designations: S - slough, M - mosquitoes, G - Gambusia, H- humans, P - pesticides, and R - repellent.

**Slough** - (wide, deeper channels of water flowing through the river of grass)



4. The teacher calls out, "Gambusia". The Gambusia fish then chase the mosquitoes. As soon as a Gambusia catches a mosquito, the mosquito takes off its picture and becomes part of the slough.

5. After a couple minutes, the teacher calls out mosquitoes and the mosquitoes chase the humans. Any human may find the repellent and stand next to it, so a mosquito can't tag him. However, as soon as another human comes by the repellent, the first human must leave. Every time a mosquito tags a human, the human turns into a mosquito.

6. When there are only Gambusia and mosquitoes left, the teacher calls out pesticide. The pesticide individuals chase the Gambusia and mosquitoes until there are none left. (Tagged Gambusia and mosquitoes move outside the "slough" boundaries.) The active part of the game is then ended.

**Variation:** As the students get the idea of the game, you may tell them that every time you call another species, the slough students (S's) turn to the right, stretching their arms out, fingertip to fingertip. Then the players who are doing the chasing can only chase each other in one direction and can not run under the outstretched arms. The slough turns to the front when the teacher calls out a different animal or the terms "pesticide" or "repellent".

**Extension**

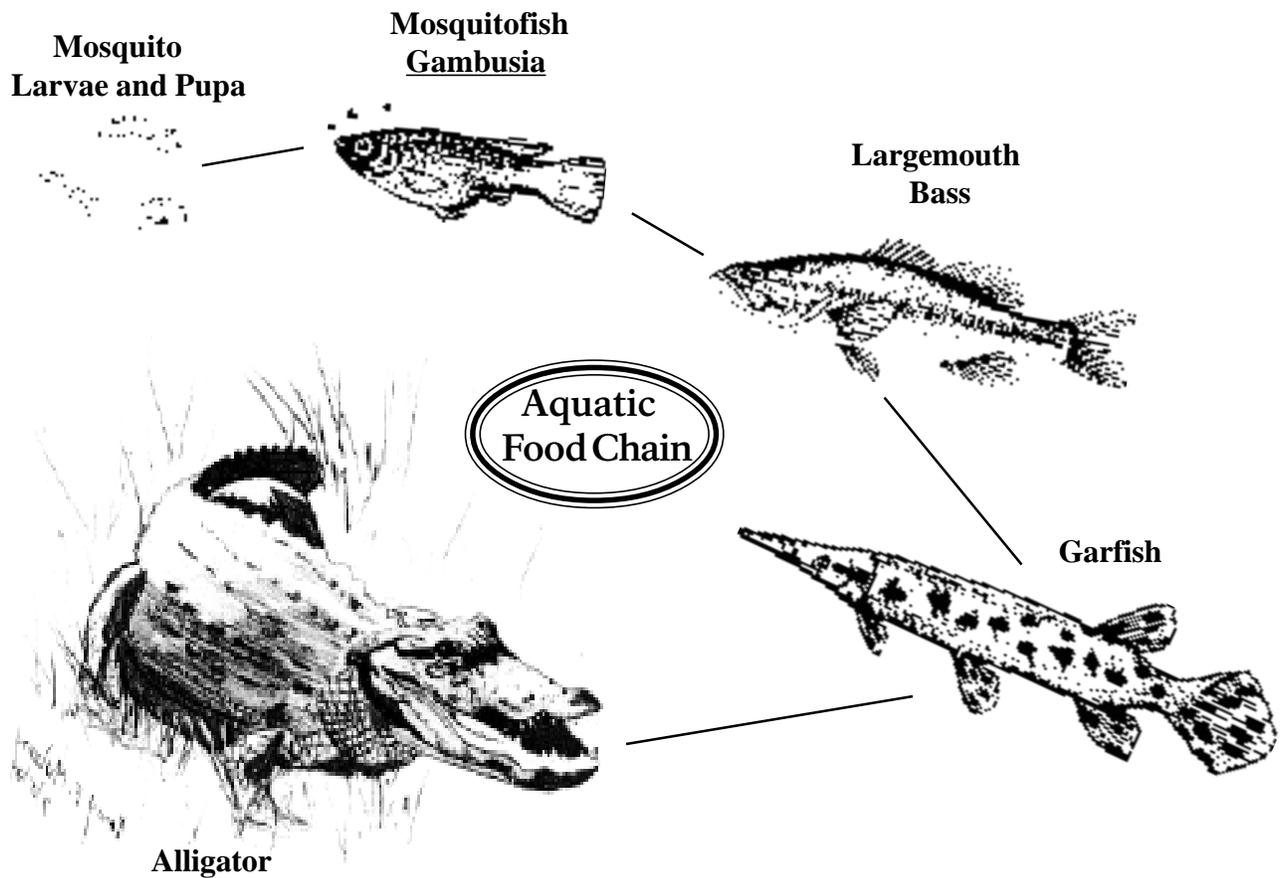
Do you think mosquitoes are a bad insect? Why or why not? When pesticides were sprayed on the mosquitoes, do you think only the mosquitoes died? What would happen if we got rid of all the mosquitoes? Encourage students to think in terms of the way things move through the food chain. Why are mosquitoes important to the Everglades? Can we protect ourselves from mosquitoes without using pesticides?

Have student groups create (draw, make a diorama, act out) a food chain starting with mosquito larvae or mosquitoes. (See example on the following page.) Have one group look up information on the pros and cons of using pesticides, primarily DDT and malathion. Have students give a presentation about their findings.

## Credits

Lodge, Thomas E. *The Everglades Handbook: Understanding the Ecosystem*. Del Ray Beach, FL; St. Lucie Press, 1994.

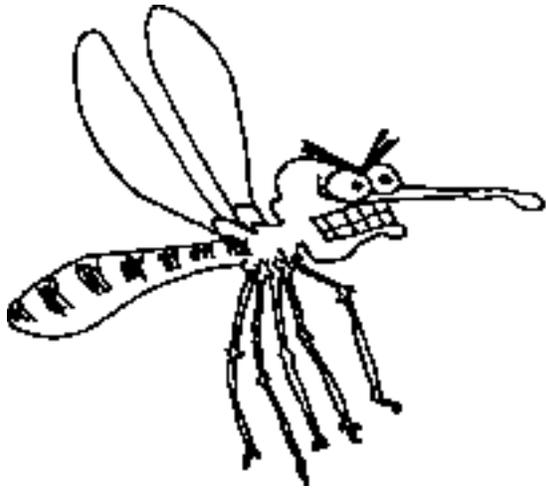
Linsenmaier, Walter, translated from German by Leigh E. Chadwick. *Insects of the World*. McGraw-Hill, 1972.



## Important Words

Food Chain  
Hammocks  
Humans  
Gambusia  
Larvae  
Mangroves  
Mosquitoes  
Pesticides  
Repellant  
Slough  
Swat

# Mosquito Swat Picture Page



Mosquito



Mosquito

Gambusia holbrooki



(Mosquitofish)



Humans

**PESTICIDE**

