



### Build a Mosquito Trap\*

#### Tools of the Trade

In order to trap mosquitoes, you will need to design and build an ovitrap. The word ovitrap comes from two words - ovi (meaning egg) and trap (meaning, well, trap). You will need the following materials:

**Oviposition cups (ovicup):** 16 oz party cups (your choice of color or clear)

**Ovipaddle:** 6" jumbo craft sticks

**Ovipaper:** 8" unbleached paper towel

**Water:** Ovitrap work best with dechlorinated water. To dechlorinate tap water, collect the tap water and allow it to air out for several days before the experiment.

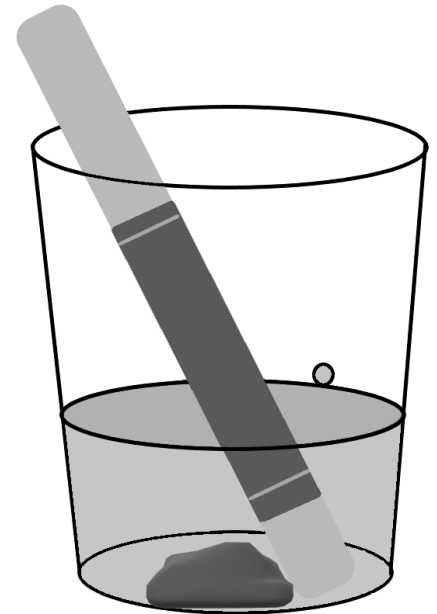
**Other Tools:** power drill, ruler, stapler or rubber bands, permanent marker, insect repellent

#### Prepare the Cup

1. Using a ruler, measure the cup from bottom to top. Use a permanent marker to make a small line at the 3" mark.
2. Creating the trap requires the use of a power drill. You may need an adult's help to drill or supervise while you drill. You will also need safety gloves and safety glasses. Place your drill bit on top of the mark. Carefully drill a hole at the mark.

#### Prepare the Ovipaddle

3. Cut the paper towel to 6" in length.
4. Wrap the cut paper towel around the craft stick. Secure the paper towel to the stick using staples or rubber bands at the top and bottom of the stick.
5. Use the permanent marker to label the ovipaddle with your initials.



#### Place the Trap

*Expert Tip: When setting your trap, be sure to protect yourself from mosquito bites. Wear long-sleeved shirts and long pants and use an EPA-registered insect repellent before beginning.*

6. Find a space outside your home where your ovi cup won't be disturbed. It should be a flat, shady spot that you can easily access. *Tip: Add a rock to the bottom of your cup to prevent it from blowing over in strong winds.*
7. Label the ovipaddle with the date. Fill the ovi cup to the hole with water and place the ovipaddle in the cup.
8. Place the ovi cup in your selected spot. The cup will remain in this spot for a week.

\*Instructions adapted from [Smithsonian's Mosquito!](#)



## Implement a Mosquito Management Plan

You will conduct data collection over two weeks. The first week, you will get a baseline—a measurement of how large the populations were before you implemented your plan. Then you will make some changes to the environment to see how they affect the number of mosquitoes captured in the second week.

### Week 1 Data Collection

1. Check the ovicup once a day to ensure the water level is the same. If the water is below the hole, refill the cup. If the cup has filled past the hole, carefully pour the excess out, being sure not to disturb the paddle.
2. At the end of week 1, remove the ovipaddle from the cup. Take photos of the ovipaddle and count the eggs attached to the ovipaddle. Draw a data table like the example below and record your week 1 information in the table as shown in the example below.

**EXAMPLE DATA TABLE**

Container	Location	Dates	# of Eggs
<input checked="" type="checkbox"/> Black Cup	<input type="checkbox"/> Full Sun	Week 1:	35
<input type="checkbox"/> Dark Cup	<input checked="" type="checkbox"/> Full Shade	<u>6/22/2020</u> - <u>6/28/2020</u>	
<input type="checkbox"/> Light Cup	<input type="checkbox"/> Partial Shade	Week 2:	
<input type="checkbox"/> Other (describe)		<u>  </u> / <u>  </u> / <u>  </u> - <u>  </u> / <u>  </u> / <u>  </u>	

### Mosquito Control Measures

At the start of Week 2, you will implement your plan. Some ideas to reduce populations include:

- Get rid of any standing water around your yard.
- Spray outside your house with a safe pesticide— a chemical used to kill insects. You will need to choose wisely if you use this method, because you do not want to kill any beneficial insects.
- Clear areas where mosquitoes make their nests.
- Plant mosquito repelling plants, like lemongrass and marigold.

You will need to determine how often you need to take prevention steps. Be sure to take notes on what your plan includes, how often you do it, and where you do it. This way other **citizen scientists** can follow your steps.

### Week 2 Data Collection

When you collect data for week 2, reset your ovicup.

1. Create a second ovipaddle and mark it with the date.
2. Place the ovicup back in the same flat, shady spot that you can easily access.
3. Check the ovicup once a day to ensure the water level has not changed.

At the end of week 2, remove the ovipaddle from the cup. Take photos of your ovipaddle. Count the eggs on the ovipaddle and **record the information in your data table**. Feel free to continue the experiment for several weeks to gather more complete data.



## Share Your Findings

The most important part of this investigation is to share the data you collected. There are several ways you can share your data. Here are a couple of examples:

### **The Citizen Science Invasive Mosquito Project**

(<http://www.citizenscience.us/imp/index.php>)

This project was designed to collect data from around the United States about mosquito populations. To share your data, you will need to go to the “Collection Form” page and follow the steps to complete it.

### **The GLOBE Observer: Mosquito Habitat Mapper**

(<https://observer.globe.gov/do-globe-observer/mosquito-habitats>)

This app allows you to upload your information to an international database, keep track of your observations, and review the measurements made by others. To share your data, create an account after downloading the app. The app will then provide step-by-step directions to upload your data.

### **The David J. Sencer CDC Museum**

The David J. Sencer CDC Museum uses award-winning exhibits and innovative programming to educate visitors about the value of public health and presents the rich heritage and vast accomplishments of CDC. Your demonstration could be a valuable contribution! Share your demonstration with the CDC Museum on Instagram using **@CDCmuseum**.