

Vector Inspector: Mosquito Trap, and Mosquito Craft



About the NASA@MyLibrary Kit:

- The Mosquito Kit includes materials for the trap, camera lenses, stickers, and instructions on how to use the Globe Observer App.
- Not included: Scissors, tape, your own device

About the Mosquito Craft:

- Includes pipe cleaners and 2 googly eyes
- Not included: scissors, glue stick

Mosquito Craft Instructions:



Pipe cleaner mosquito

1. First, cut your pipe cleaners. You should have one $\frac{2}{3}$ rd length black piece, and three $\frac{1}{3}$ rd length black pieces. You should also have one $\frac{2}{3}$ rd length white piece and one $\frac{1}{3}$ rd length white piece.



2. Begin by rolling both ends of the shorter white piece toward the center to form a base for the eyes. Then glue the eyes on. With the longer white piece, make a set of wings by folding the ends in and twisting them at the center of the pipe cleaner.



3. Twist the 3 equal sized black pieces together in the middle.

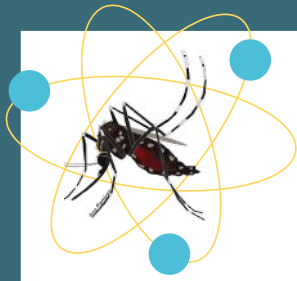


4. Take the remaining black piece and thread it through the eyes and over the wings. Add the legs by placing them underneath the long black pipe cleaner and wrapping all the pieces together with the longer black piece.



Fun Facts:

- Mosquitoes are the deadliest creatures in the world!
- A vector is a small animal or insect that can make you sick – just like a mosquito.
- Male mosquitoes do not bite people or animals.



LEARN ABOUT THE MOSQUITO LIFE CYCLE

Objective: Young scientists will identify the four stages of mosquito metamorphosis.

Background: Mosquitoes grow and develop in a process called metamorphosis. Metamorphosis means change or transformation. Unlike some animals that are a smaller version of their parents at birth, mosquitoes grow through four distinct stages. The four stages of the mosquito life cycle are egg, larva, pupa, and adult.

Water is very important to mosquitoes. Without water, mosquitoes cannot develop and grow.

Egg/eggs: Depending on the mosquito species, female adult mosquitoes lay eggs either on the surface of water or inside a container that has had water before. The eggs hatch after a few days in water.

Larva/larvae: As the eggs hatch, the mosquito larvae shoot like little rockets into the water and start their main job, which is eating. Larvae eat what they can find in the water, bacteria and algae being favorites. Larvae have little hairs on their body. They also have a tube-like siphon at the other end of their body for breathing air at the water's surface. As larvae eat, they grow very quickly and they molt, or shed, their exoskeleton four times. The fourth molt is a special molt which is the creation of a pupa.

Pupa/pupae: The pupal stage is where the larva transforms into an adult mosquito. The pupa does not eat but it still needs to breathe air. The pupa will rest at the surface of the water and has two trumpets to take in air. Even though the pupa does not have eyes, it can sense light, shadows and disturbances in the water. The pupa will dive down into the water for protection when it senses danger. Once the transformation is complete, the pupa will float to the water's surface so that the adult can emerge.

Adult mosquito/adult mosquitoes: While floating at the water's surface, the pupa's exoskeleton splits open and the adult mosquito emerges. The adult mosquito then rests on the water while its wings dry. Once its wings are dry, it is ready to fly and start its search for food.

Next Steps: Now that you know that mosquitoes need water to complete their life cycle, go outside and search for standing water. Empty the water to prevent mosquitoes from breeding there. Create a mosquito trap using the materials from NASA@MyLibrary and share your observations using the GLOBE Observer App.

Mosquito Life Cycle

