



Life Cycle Kit Experiment & Investigation

TEACHER'S COPY

Goal: To observe and understand the mosquito life cycle and behavior.

Materials: Life Cycle Kit, microscope (optional), black light (optional)

Procedure:

1. Observe the behavior of the larvae/pupae in the small jar with the black lid, and/ or the emergence cage, then use magnifying glass (or a microscope if one is available) to get a closer look at the larvae/pupae.
2. Make sure that you look through the smaller lens in the magnifying glass, this will allow you to see the larvae and pupae in greater detail.
3. Take the vial filled with blue mosquito larvae food and carefully fill the cap of the vial 2/3 full. Pour the food from the cap into the small jar with the black lid (that is full of mosquito larvae) and gently shake the jar a few times so that the food mixes with the water. Do not eat the mosquito larvae food.
4. Use a magnifying glass (or microscope) to observe larvae feeding.
5. Remove a few larvae and pupae (with pipette) after 5, 30 and 60 minutes of feeding, and put them on glass petri dish with a little water to examine with magnifying glass or microscope.
6. Carefully observe how the larvae move when they are disturbed (gently tap on glass) and how they move when they are feeding.

Observations

1. When you look at the larvae with the magnifying glass, what mosquito body parts can you see that you could not see very well when you were looking at them with just your eyes?

Students may list any parts from diagram.

2. Use a magnifying glass to look at a mosquito that is hanging upside down at the surface of the water. On the diagram to the right, circle the part of the mosquito larvae that rapidly moves back and forth (like a brush).
3. Why do you think this body part is moving back and forth?

The larvae are feeding. Larvae suck in food particles from the water.

4. **Yes**
5. **See Diagram**

6. Examine how larvae move in the emergence cage. Compare how larvae move when disturbed and how larvae move when they are feeding.

When feeding, larvae move slowly. The suction from their mouth parts propels them. When disturbed, they rapidly "wiggle" their bodies' to dive/escape.

7. Examine a pupa. Is any of the colored food inside the pupa? No, pupae do not eat.

Conclusion

1. What have you learned about the way that mosquito larvae eat? Larvae are filter feeders. They constantly suck in food that is suspended in the water.
2. Why was there no colored food inside of the pupae? Pupae do not eat.
3. List other animals that feed in a similar way to mosquito larvae? (other filter feeders)

Baleen whales, whale sharks, krill and clams are filter feeders. There are many other filter feeders, and students may need to do additional research.

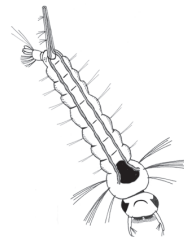
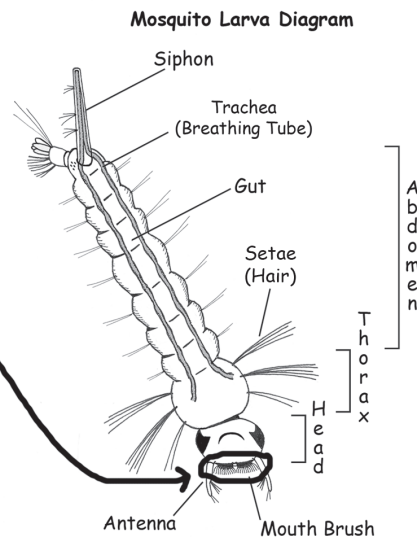
Grade 5 Investigation and Experimentation

"Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data."

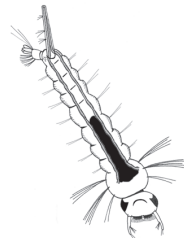
Grade 6 Investigation and Experimentation

"Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data."

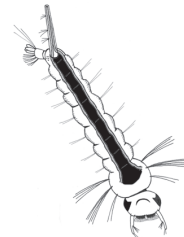
Students will be able to observe how the guts of mosquito larvae "fill up" with colored food as time progresses. Not all larvae will feed at the same rate. The example below is typical of how larvae will "fill up" over the course of an hour. Results may vary.



5 minutes after feeding (little or no food visible)



30 minutes after feeding (some food visible in gut)



1 hour after feeding (gut is mostly "full")