Life Cycle Kit Experiment & Investigation

TEACHER'S COPY

Goal: To observe and record aspects of the mosquito life cycle.

Materials: Life Cycle Kit, ruler, red, green, and black pens/pencils

Procedure:

1. Observe the mosquitoes in the emergence cage for 5 school days.
2. Each day count how many live larvae, pupae, and adults there are in the emergence cage. Record how many you see each day in the charts, and fill in the graph. Counting larvae and pupae can be difficult. Wait until most of the larvae/pupae are at the surface breathing. Be careful not to startle the larvae with sudden movements or by touching the cage. If you can't figure out the exact amount of larvae/pupae, try to make the best estimate possible.
3. Use the pipette (looks like small turkey baster) to remove larvae/pupae from the smaller jar with a black lid in the life cycle kit. Carefully place the larvae/pupae in the petri dish with water and examine with a magnifying glass.
4. Estimate how long you think a larva is, then estimate the length of a pupa.
5. Measure the length of 3 larvae and 3 pupae, then feed larvae and pupae to the fish.

Grade 3 Investigation and Experimentation
"Use numerical data in describing and comparing objects, events, and measurements."

Grade 4 Investigation and Experimentation
"Construct and interpret graphs from measurements."

"Follow a set of written instructions for a scientific investigation."

Observations

Charts

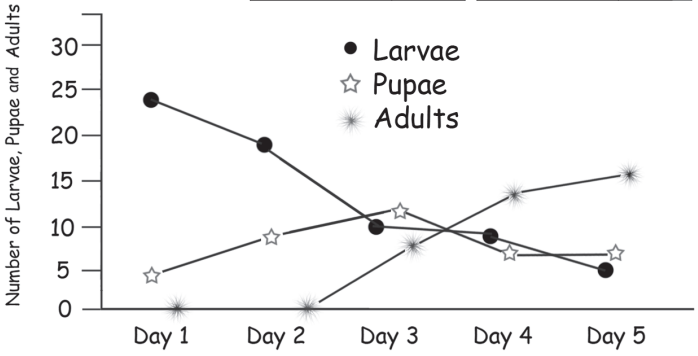
Day 1	
Live Larvae	24
Live Pupae	4
Live Adults	0

Day 2	
Live Larvae	19
Live Pupae	9
Live Adults	0

Day 3	
Live Larvae	9
Live Pupae	11
Live Adults	8

Day 4	
Live Larvae	8
Live Pupae	7
Live Adults	13

Day 5	
Live Larvae	4
Live Pupae	7
Live Adults	15



How long do you think the larva is? 5cm
How long were the larvae? Larva #1 8mm Larva #2 7mm Larva #3 6mm
How long do you think the pupa is ? 3cm
How long were the pupae? Pupa #1 3mm Pupa #2 4mm Pupa #3 3mm

The information that the students write in the observations will vary. Each emergence kit will start out with approximately 25 larvae and a few pupae. The answers given in the observations are only examples of what happened during one experiment.

One purpose of this experiment is to track the population of larvae, pupae and adults in a controlled environment. Students will be able to observe the number of larvae decreasing over the week long period, and the number of pupae initially increasing, then declining as they emerge as adults. The adult population will start at zero, and increase as time goes on.

Measuring the larvae and pupae can be tricky. If students are patient, they will be able to measure fairly accurately. Students should use metric measurements.

Conclusions

1. What day had the most larvae? Day 1
2. What day had the most pupae? Day 3
3. What day had the most adults? Day 5
4. Why did the number of larvae go down as the days went by? The larvae turned into pupae or died.
5. If you continued the experiment for 5 more days, how many larvae, pupae, and adults do you think you would have? About 36 adults- no larvae or pupae.
6. Did you see any dead larvae, pupae, or adults? If so, what do you think caused them to die? A few larvae died. This could have been from stress of being examined, disease, or competition with other larvae.
7. In the wild, what could cause a mosquito larvae or pupae to die before it is able to turn into an adult mosquito? Predation, water dries up, poisoned, lack of food, pollution, disease, etc.
8. Are all larvae longer than pupae? When larvae hatch from eggs, they are much smaller than pupae.
9. What did you like best about watching the mosquitoes? Answers will vary

***Bonus Can a mosquito pupa starve to death? Why or why not? No, pupae do not eat.

The answers in the conclusions may vary. Not all possible correct answers are listed. Students will understand that not all larvae survive long enough to emerge as adults, and be able to make educated guesses as to what factors play a role in larval mortality in the wild.