



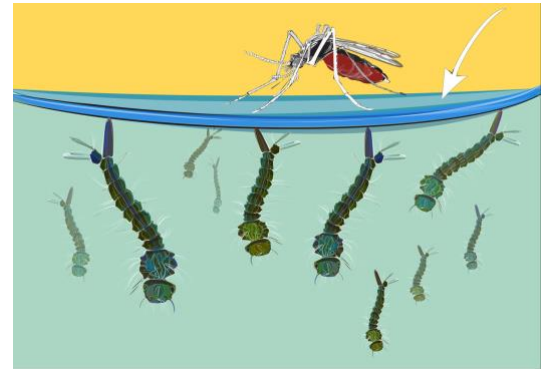
Life Cycle of the Mosquito

A Journey from Egg to Adult

Using diagrams, graphic organizers, and water samples from mosquito breeding habitats, learners will be able to identify what mosquitoes look like in the four stages of development. Learners will demonstrate this knowledge by working as a group to create and perform a mosquito life cycle dance.

Purpose

Learners will investigate the life cycle of mosquitoes by observing the diagrams provided in this activity and examining water samples collected from **mosquito breeding habitats**. This activity provides learners with further evidence that all **organisms**, or living things, grow and change as they progress through their life cycle.



Time

- **Part 1:** 30 minutes
 - Going over key words, life cycle diagram and completing the drawing of an adult mosquito
- **Part 2:** 30 minutes
 - For observing water sample and completing the Putting the Life Cycle Together activity sheet
- **Part 3:** 15 minutes
 - Mosquito Life Cycle Dances

Materials

- Literature selection for read-aloud such as *Grandmother Mosquito* by Fritz Petropoulos
- Pre-collected sample of water from a mosquito breeding habitat
- Observation Journals
- Glue sticks
- Scissors
- Pencils or pens
- Hand lenses
- Disposable gloves if handling water samples
- Putting the Life Cycle Together Activity Sheet (included below)

Safety

When you go outside to collect water samples from mosquito habitats, please wear long sleeves, long pants, and appropriate footwear. Apply insect repellent and always use caution to make observations safely. Young learners may need assistance with cutting and gluing for the Putting the Life Cycle Together activity sheet.

What to Do

Part 1

1. If time permits, share a fun mosquito read-aloud.
2. Introduce this activity by talking about life cycles that are familiar to learners such as the life cycle of a human, butterfly, and a tree. Discuss the key words highlighted in this document and go over the Mosquito Life Cycle diagram (included below). *Note: You can connect this activity to the Life Cycle of a Tree activity.*
3. Using the Putting the Life Cycle Together Activity Sheet, have learners cut and glue the life cycle stages into the correct sequence. This can be added to their observation journals.
4. Have learners complete the right side of the adult mosquito drawing.

Part 2

1. Using hand lenses and disposable gloves, learners observe the water sample and try to locate eggs, **larvae**, **pupae**, and adult mosquitoes.
2. Record observations on a chart using the Mosquito Habitat Mapper in the GLOBE Observer app or in observation journals.

Part 3

Form groups of learners to create and perform a Mosquito Life Cycle Dance.

Questions for Review

1. What do you think would make a larva leave the surface (where it is getting the air it needs to breathe) and go deeper into the water? List two to three ideas.
2. After just a few days as a larva, it develops into a pupa. Pupae also live in the water. During this short stage (1.5 to 4 days) it forms the body parts that will allow it to survive in the air as an adult. A pupa does not eat. If they do not eat, how do you think they survive?

Key Words

Larvae: The worm-like immature form of a mosquito that hatches from the egg. It is long, thin and segmented, and it does not have legs or wings. It wriggles through the water and breathes air. Larvae need lots of energy to grow, so they eat constantly (mostly algae and other microorganisms.)

Macroinvertebrates: an animal without a backbone that is large enough to see with the naked eye

Microorganisms: an organism that can be seen only through a microscope such as larvae

Mosquito Breeding Habitats: places where mosquito eggs, larvae, and pupae can live and grow

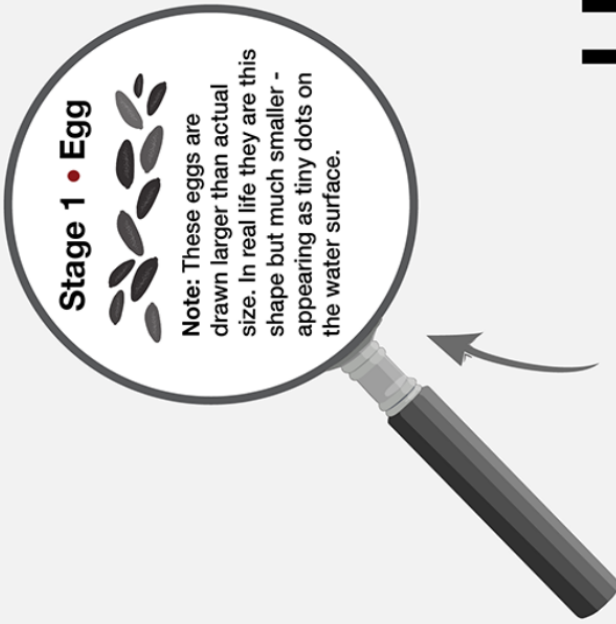
Organisms: A living thing made up of one or more cells and able to carry on the activities

Pupa: The immature form of a mosquito between larva and adult. The shape of a pupa resembles a comma. During this short stage (1.5 to 4 days long), the pupa changes into the flying adult mosquito. The pupa does not eat, but continues to breathe air, now through two tubes called “trumpets.”

Modifications and Extensions

- For older learners, collect multiple water samples and use microscopes or phone magnifiers to identify any stages of mosquitoes present and any additional **macroinvertebrates** found in the sample.
- Instruct older learners to label the parts of the adult insect at the bottom of the Putting the Life Cycle Together Activity Sheet.
 - Start by paying attention to the details of the shapes, sizes, colors and locations of the mosquito’s body parts.
 - Be sure to point out the needle-like attachment coming out of the mosquito. This is the proboscis. It allows the mosquito to eat and suck blood.
 - Show the learners the three main body sections: head, thorax (just behind the head), and the abdomen.
 - Have learners label the wings, antennae, proboscis, legs, head, thorax and abdomen.
- For younger learners, have them complete only the drawing or label the three main body parts, if appropriate.

Egg hatches into a larva



Stage 1 • Egg

Note: These eggs are drawn larger than actual size. In real life they are this shape but much smaller - appearing as tiny dots on the water surface.

Stage 2 • Larva



Wormlike larva changes into a pupa



Stage 3 • Pupa

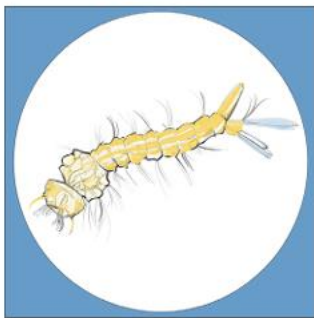
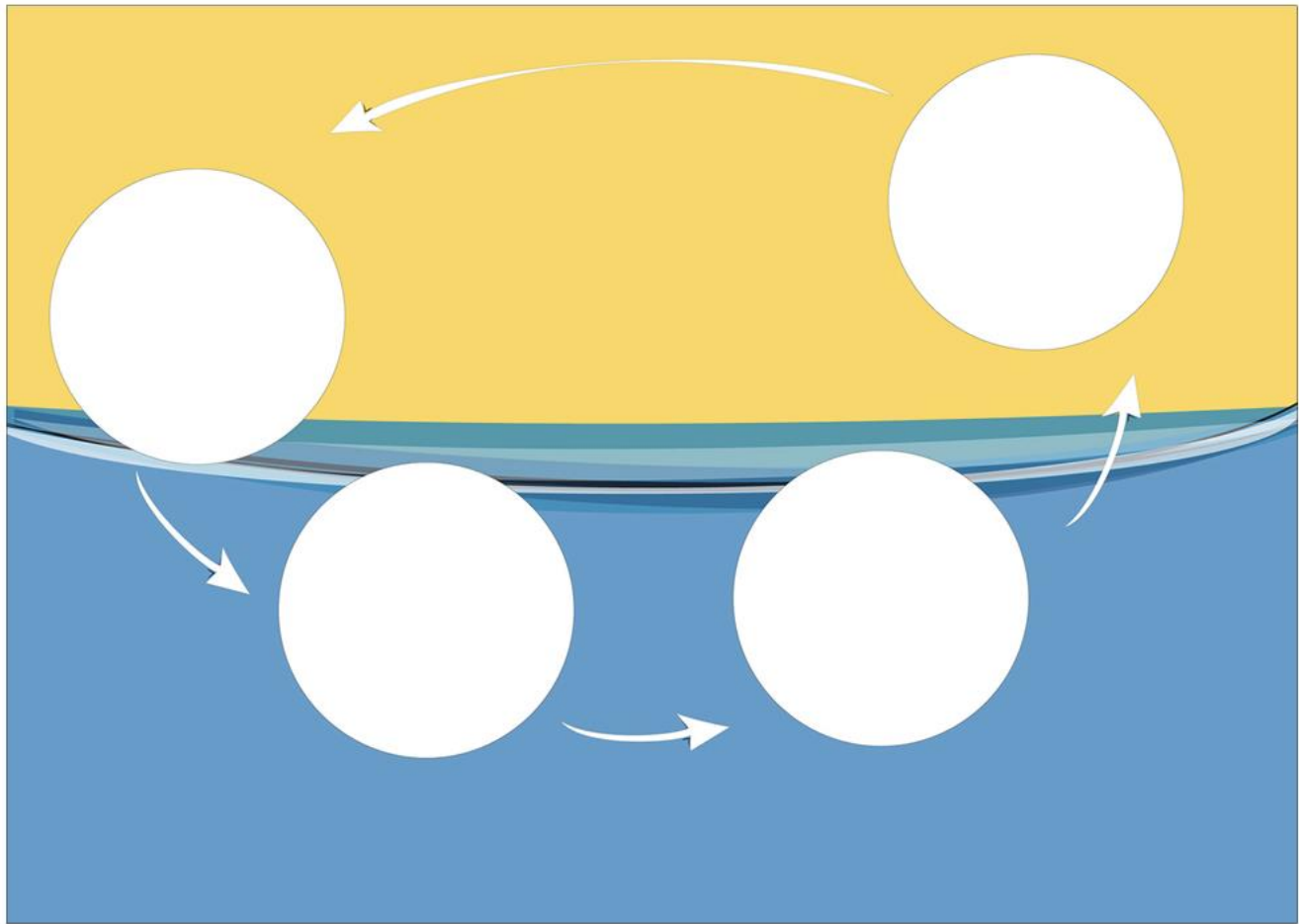
Pupa turns into an adult



Stage 4 • Adult

Adult female lays eggs; the cycle repeats

MOSQUITO LIFE CYCLE



Putting the Life Cycle Together

Cut and paste or draw the stages of the mosquito life cycle in the correct sequence.

Then draw the other half of the adult mosquito.

