

Virtual Firefly Lesson: Firefly Life Cycle

In this lesson, participants will explore the life stages of the firefly.

Adult male fireflies lift off at dusk, flying and flashing specific light patterns in hopes of getting the attention of females. Females hang out on the leaves of plants or trees and generally do not fly. When a female sees a male of her own species, if she is interested, she will flash back the right signal to him; a secret code for finding mates.

A few days after mating, a female lays her fertilized eggs on or just below the surface of the ground. The eggs hatch three to four weeks later and the larvae, called glowworms, emerge from the ground. The larvae are voracious carnivores, and they typically hunt for slugs, snails, and worms in wet places. When they catch them, the firefly larvae inject the soft bodied invertebrates with paralyzing neurotoxins. Then they liquefy the prey with digestive enzymes before they eat them. That is pretty gruesome, even for the insect world.

Firefly larvae hibernate over winter by burrowing under leaves or underground. In the spring, they emerge from hibernation and go on the hunt for squishy slugs and bugs again. On spring nights, you can sometimes see the faint light of the glowworms in the leaves on the ground when they emerge from hibernation.

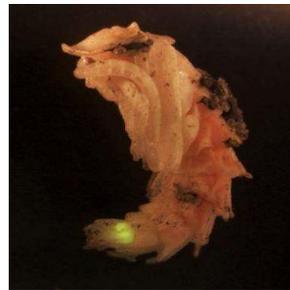
After several weeks of feeding, fireflies pupate. This stage lasts for one to two weeks before the winged adults emerge. Alas, the adults only live a few weeks. The entire life cycle can take up to two years to complete, with the most of it spent in the larval stage. All life stages of the firefly are bioluminescent, which means that they can glow from egg to adult.



Firefly eggs



Larva



Pupa



Adult

Want to learn more? Check out [this article](#) on the life cycle of fireflies.

Test your knowledge:

1. What are the four life stages of the firefly? Which of the stages are bioluminescent?
2. What is a glowworm? What do they eat?
3. Where do firefly larvae hibernate?
4. How long does it take for a firefly to complete its life cycle?
5. How long do adult fireflies live?



Home Activities:

During firefly mating season, observe firefly behavior at dusk. Watch the males flash and fly. See if you can find the females waiting on the plants or trees in your yard. Can you observe a male and female communicate with light?

Later in the summer, take a walk outside after dark and search the ground for glowworms that have emerged from the soil. Take that same walk next spring and see if you can find the glowworms then.

Look under rocks and leaves for slugs and snails but leave them where you find them. Remember, they are firefly food!

Answer Key for Test your Knowledge

1. What are the four life stages of the firefly? Which of the stages are bioluminescent?

1. Egg
2. Larva
3. Pupa
4. Adult

All 4 stages are bioluminescent, from egg to adult.

2. What is a glowworm? What do they eat?

Glowworms are firefly larva. They eat slugs, snails, and worms.

3. Where do the firefly larvae hibernate?

Under leaves and underground.

4. How long does it take for a firefly to complete its life cycle?

Up to 2 years!

5. How long do adult fireflies live?

Only a few weeks.

Additional Resources

- [Firefly.org Resources](#)
- [Firefly Facts](#)
- [Secret Mating Codes of Fireflies](#)
- [Life Cycle video](#)
- [Firefly Research: University of Connecticut video](#)

Photos courtesy of Google Images.