

Fruit Fly Life Cycle ^[1]

By: Pribadi, Amy Keywords: Fruit flies ^[2]

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Fruit flies of the species *Drosophila melanogaster* develop from eggs to adults in eight to ten days at 25 degrees Celsius. They develop through four primary stages: egg, larva, pupa, and adult. When in the wild, female flies lay their fertilized eggs in rotting fruit or other decomposing material that can serve as food for the larvae. In the lab, fruit flies lay their fertilized eggs in a mixture of agar, molasses, cornmeal, and yeast. After roughly a day, each egg hatches into a larva. The larva eats the material it finds itself in, and for four days it grows into stages of increasing size, called first-, second-, and third-instar stages. This figure shows a third-instar larva. Each larva has sections of tissue called imaginal discs, from which various parts of the adult anatomy develop. This figure shows the imaginal discs that will develop into antennae (colored purple), eyes (colored red), brain (colored blue), and wings (colored green). After four days, the larva turns into a pupa by making a casing, similar to caterpillars, and grows within the casing. After a four-day metamorphosis, the adult fly then emerges from its pupal casing. Adult males look somewhat different from adult females, as the males have darker rear abdomen segments than do females. The warmer the temperature around the eggs, the faster the flies develop to adults.

Subject

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