

Life Cycle of an Insect

What is a Life Cycle?

The life cycle is the series of changes that a living thing goes through from birth to adulthood.

Insects have two types of life cycles:

- Four stages → Complete metamorphosis (e.g., butterfly, beetle).
- Three stages → Incomplete metamorphosis (e.g., grasshopper, cockroach).

A butterfly's life cycle consists of four stages.

This process is called Metamorphosis → A complete transformation in body form.

Life Cycle of a Butterfly (Four Stages)

Stage 1: Egg

- The life cycle begins with an egg.
- A female butterfly lays tiny eggs on leaves or plants after mating.
- The eggs are surrounded by a hard protective shell.
- Inside the egg, a caterpillar (larva) develops.

Stage 2: Caterpillar (Larva)

The egg hatches into a caterpillar, also known as the larva.

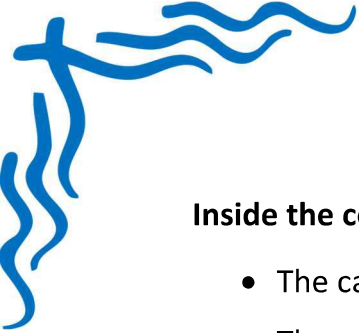
The caterpillar:

- Eats constantly → It spends most of its time feeding on leaves.
- Grows quickly → As it grows, it moults (sheds its skin) several times (4–5 times, depending on the butterfly species).

This stage helps the caterpillar store energy for the next phase.

Stage 3: Pupa (Chrysalis)

- When the caterpillar reaches its full size, it stops eating.
- It writhes and twists to shed its old skin.
- A new protective skin called a cocoon (chrysalis) forms around it.



Inside the cocoon:

- The caterpillar changes into a pupa.
- The pupa appears wormlike and undergoes major changes.
- This is the resting stage, where the caterpillar transforms into a butterfly.

Stage 4: Adult Butterfly

When the pupa completes its transformation, it turns into an adult butterfly.

The butterfly:

- Emerges from the cocoon with wrinkled wings.
- Pumps blood into its wings → This makes the wings expand fully.
- Once the wings are strong, the butterfly flies away.

The adult butterfly will eventually lay eggs, starting the life cycle again.

Key Features of Butterfly Metamorphosis

Stage	Description	Key Changes
Egg	Tiny, hard-shelled egg laid by a butterfly.	Caterpillar (larva) develops inside.
Larva	Caterpillar hatches and feeds on leaves.	Grows rapidly and moults.
Pupa	Caterpillar forms a cocoon (chrysalis).	Major transformation occurs.
Adult	Butterfly emerges from the cocoon.	Wings expand and it flies away.

Fun Facts About Insects

Insect Population:

In 1 square mile of forest, there are more insects than all the people on Earth!

Insects Breathe Differently:

They use spiracles (tiny holes) on their bodies to breathe, not lungs.

Butterfly Wings:

A butterfly’s wings are made of tiny scales and are very delicate.

Tip for Students:

E-L-P-A = Egg → Larva → Pupa → Adult