

L.O. To describe the life-cycle of an insect through complete metamorphosis. Remember to/that:	What I think	What my teacher thinks
An insect life-cycle begins with the laying of eggs.	☐	☐
Insects begin life by hatching from eggs as larvae.	☐	☐
The larvae form a hard case around themselves called pupae.	☐	☐
Larvae change to adults through 'metamorphosis' (e.g. caterpillar to butterfly).	☐	☐
Butterflies can live for between 2 weeks and a few months.	☐	☐

<https://www.youtube.com/watch?v=r3J1SZK06mE>

Glossary

- exoskeleton** - an external skeleton, formed of hard 'shell-like' structures.
- pupa** - a hard case around a larva, inside which metamorphosis occurs.
- metamorphosis** - a change in size and shape of an animal.
- larva** - a young animal before it goes through metamorphosis.
- adult** - a mature animal, capable of reproduction.

Your task

Your task is to produce a diagram showing the life-cycle of an insect, including complete metamorphosis, based on the information in the video you have watched.

You should spot that there are four clear stages. Draw a sketch of each stage and add a description of what is happening at each stage.

There are diagrams and descriptions on the next pages that will help you, if needed.



Animals that Undergo a Complete Metamorphosis:

Insects

Most insects have four stages in their life cycle (example used here is a butterfly):

Eggs

A butterfly starts life as a very small, round, oval or cylindrical egg. The coolest thing about butterfly eggs, especially monarch butterfly eggs, is that if you look close enough you can actually see the tiny caterpillar growing inside of it. Some butterfly eggs may be round, some oval and some may be ribbed while others may have other features. The egg shape depends on the type of butterfly that laid the egg.

Butterfly eggs are usually laid on the leaves of plants, so if you are actively searching for these very tiny eggs, you will have to take some time and examine quite a few leaves in order to find some.

Larva

When the egg hatches, the caterpillar will start his work and eat the leaf they were born onto. This is really important because the mother butterfly needs to lay her eggs on the type of leaf the caterpillar will eat – each caterpillar type likes only certain types of leaves. Since they are tiny and can not travel to a new plant, the caterpillar needs to hatch on the kind of leaf it wants to eat.

Caterpillars need to eat and eat so they can grow quickly. When a caterpillar is born, they are extremely small. When they start eating, they instantly start growing and expanding. Their exoskeleton (skin) does not stretch or grow, so they grow by “molting” (shedding the outgrown skin) several times while it grows.

Pupa (Chrysalis)

The pupa stage is one of the coolest stages of a butterfly’s life. As soon as a caterpillar is done growing and they have reached their full length/weight, they form themselves into a pupa, also known as a chrysalis. From the outside of the pupa, it looks as if the caterpillar may just be resting, but the inside is where all of the action is. Inside of the pupa, the caterpillar is rapidly changing.

Now, as most people know, caterpillars are short, stubby and have no wings at all. Within the chrysalis the old body parts of the caterpillar are undergoing a remarkable transformation, called ‘metamorphosis,’ to become the beautiful parts that make up the butterfly that will emerge. Tissue, limbs and organs of a caterpillar have all been changed by the time the pupa is finished, and is now ready for the final stage of a butterfly’s life cycle.

Adult butterfly

Finally, when the caterpillar has done all of its forming and changing inside the pupa, if you are lucky, you will get to see an adult butterfly emerge. When the butterfly first emerges from the chrysalis, both of the wings are going to be soft and folded against its body. This is because the butterfly had to fit all its new parts inside of the pupa.

As soon as the butterfly has rested after coming out of the chrysalis, it will pump blood into the wings in order to get them working and flapping – then they get to fly. Usually within a three or four-hour period, the butterfly will master flying and will search for a mate in order to reproduce.

When in the fourth and final stage of their lives, adult butterflies are constantly on the look out to reproduce and when a female lays their eggs on some leaves, the butterfly life cycle will start all over.

The Insect Life Cycle

Complete Metamorphosis

