

Science Task

To describe the life cycle of a butterfly.



All living things follow a life cycle specific to their species. Some are as short as a few hours or days while others last for hundreds of years. Because it is a cycle, there is no start or end point, but rather a continuous flow. Some species produce offspring that are very similar to the adult form, such as most mammals, birds and reptiles. Others produce a larval form that undergoes a complete metamorphosis before emerging as an adult form that is capable of reproduction.

Your task is to explain the life cycle of a butterfly, making sure you give details about all four stages. Consider how you will present it so that it is clear that it is an ongoing cycle. You must include illustrations as well as detailed explanation with scientific vocabulary. You may also want to include additional facts about butterflies to make it as informative as possible.

You can use your own knowledge as well as the information on the following pages.



Scientific vocabulary to include:

larva
pupa
chrysalis
metamorphosis
species
haemolymph
predators

Stage 1: the egg

It all starts when a female butterfly lays her eggs, usually on leaves or stems of plants. Inside these tiny eggs, caterpillars grow. Depending on the species, the eggs can vary in shape and texture – they can be round, oval or cylindrical, and smooth, bumpy or wrinkled. The time it takes for the eggs to hatch can also vary – in some species, they will hatch within a few weeks and in others they will only hatch once the weather is warm enough.



Stage 2: the caterpillar

Once ready, the caterpillar leaves its egg home and enters the big outside world! And these little critters have one serious appetite – they actually eat their way out of the egg and immediately start chomping on the leaves of the host plant. During this stage, they shed their skin four or five times – as the caterpillar grows, its skin becomes too tight and splits open, revealing a new, larger skin underneath. A fully grown caterpillar can be over 100 times larger than when it emerged from its egg. Wow!



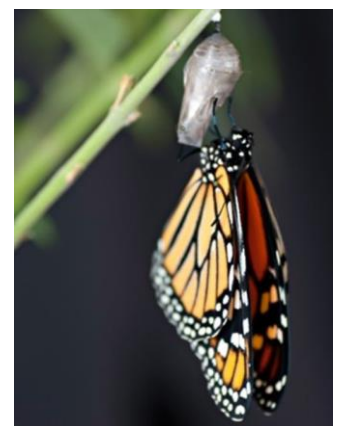
Stage 3: the pupa

Once fully grown, the caterpillar forms itself into a “pupa” (or chrysalis) – a kind of vessel in which the caterpillar changes into a butterfly. They usually do this on twigs or safe, hidden areas around the host plant. The “pupa” stage may last a few weeks to several months depending on the species. During this time, a hardened case forms around the pupa to protect it from predators and extreme weather conditions. And inside, the tissue, limbs and organs of the caterpillar transform. The result? A wonderful winged butterfly!



Stage 4: the butterfly

Once the butterfly is ready to emerge, the case around the pupa splits open. But it's not time for take off just yet, as the wings are at first wet, soft and wrinkled against its body. The butterfly waits for its wings to dry, and pumps a liquid called haemolymph into them so that they become big and strong. Once fit for flight, this brilliant bug then takes to the air in search for flowers to feed on and for other butterflies to mate with. And that's the cycle complete – and ready to start all over again!



Additional Butterfly Facts

- Butterflies are insects.
- A butterfly's lifecycle is made up of four parts, egg, larva (caterpillars), pupa (chrysalis) and adult.
- Butterflies attach their eggs to leaves with a special glue.
- One type of butterfly lays their eggs on nettle leaves as a way of defending themselves.
- Most caterpillars are plant eaters (herbivores).
- A caterpillar will only eat plants and plant matter from leaves and they do this by crawling around and collecting the seeds that they can get.
- Fully grown caterpillars attach themselves to a suitable twig or leaf before shedding their outside layer of skin to reveal a hard skin underneath known as a chrysalis.
- An adult butterfly will eventually emerge from the chrysalis where it will wait a few hours for its wings to fill with blood and dry, before flying for the first time.
- Butterflies can live in the adult stage from anywhere between a week and a year, depending on the species.
- Butterflies have four wings.
- Butterflies flap their wings about five times every second.
- During the winter some butterflies like to hibernates. They will hide in safe places like under leaves, in caves and even inside your home.
- Butterflies often have brightly coloured wings with unique patterns made up of tiny scales.
- Most butterflies feed on nectar from flowers.
- Butterflies have taste receptors on their feet.
- Scientists estimate that there are between 15000 and 20000 different species of butterfly.
- Monarch butterflies are known for their long migration. Every year monarch butterflies will travel a great distance (sometimes over 4000 km), females will lay eggs and a new generation of monarchs will travel back, completing the cycle
- Butterflies have the ability to see the colours green, red and yellow. This is useful for them when finding flowers.
- Butterflies, like many insects have their skeletons on the outside of their body. This is called 'exoskeleton' and protects their inner bodies so the moisture doesn't dry out.
- The average lifespan of a butterfly is usually around 1 month while the smaller butterflies generally live around one week.
- The Monarch butterfly is the only butterfly that has a lifespan of around nine months. No butterfly can live for more than a year.
- A butterfly has many predators such as birds and other insects so this can make a dramatic difference on how long a butterfly will live in the wild.



