

# 1. The Life Cycle of Animals



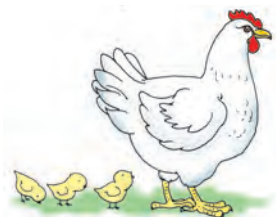
Can you tell ?



- Look at the puppies and their mother in the picture. Do you see some similarities?
- Look at the butterfly and the caterpillar that has come out of the egg. Do you see any similarities?



Can you tell ?



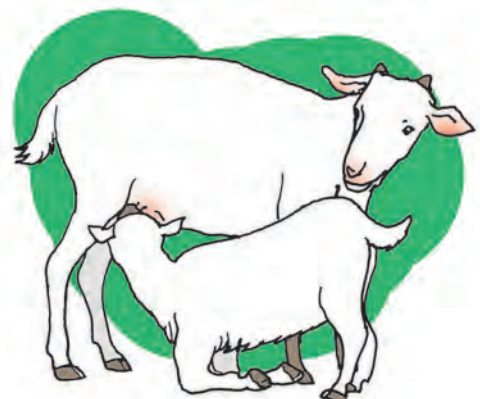
- A hen lays eggs. Chicks come out of those eggs.
- Do kittens come out of eggs?



## The growth of animals

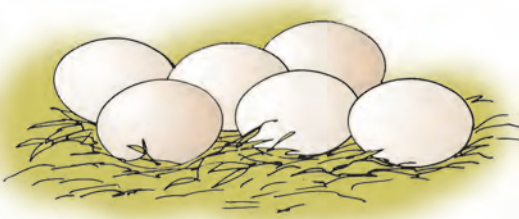
A kid and a fully grown goat are not very different to look at. There is not much difference between a kitten and an adult cat. These babies grow in their mother's tummy and are born from the mother's tummy, too. These animals do not lay eggs.

But some animals like crows, spiders, lizards lay eggs.



## A chicken is born from an egg.

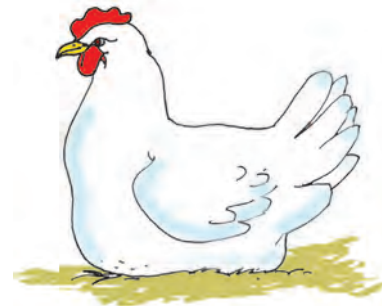
Ants, butterflies, fish, frogs, snakes are all animals that lay eggs. But, we do not often see their eggs. The eggs of some very small animals are very tiny. We would hardly notice them. So, we do not come to know that these animals lay eggs. But, we know for sure that a hen lays eggs. Her eggs are big enough to be easily seen.



### A new term !

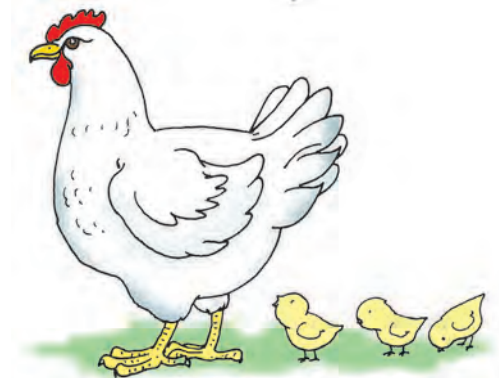
**hatch :** When a hen sits on her eggs to warm them, she is said to be 'hatching' her eggs.

A hen lays eggs. Warmth is necessary for the chicks to grow inside the egg. So, after laying them, the hen sits on the eggs to keep them warm. The chicks inside slowly keep growing.



When its growth is complete, the chick breaks the eggshell and comes out.

The hen looks after its chicks till they grow a little bigger.



### Do you know ?

When a hen is hatching her eggs, she becomes aggressive for fear of their safety. She attacks anyone who tries to go near the eggs.



### Use your brain power !

- What are the similarities between the hen and her chick?

## Metamorphosis

There are similarities between a goat and its kid, and between a hen and her chick. However, a caterpillar and a butterfly are very different.

Thus, in some animals, the young one grows into an adult animal that looks very different from the young one. This change of form is called metamorphosis.

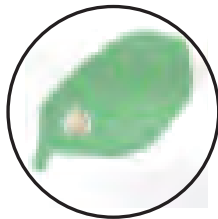
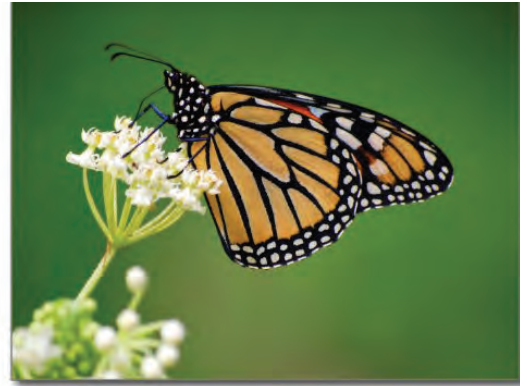


## Metamorphosis in a butterfly

Butterflies of various shapes and beautiful colours are a part of our environment. They live their life among plants.

As butterflies grow, they pass through four stages. These are egg, larva, pupa and adult. The adult stage is called butterfly.

The Plain Tiger butterfly is a very common one. Let us take its example to see how the growth of a butterfly takes place.



The female Plain Tiger butterfly lays an egg on the milkweed (*rui*) leaf. In six to eight days, the larva emerges from the egg. The larva of a butterfly is called a caterpillar.

When the caterpillar comes out of the egg it is very hungry. It begins to nibble and eat the very leaf on which it emerges from the egg. It eats very fast. So, its growth is very rapid.



### A new term !

**moult** : to shed old skin to make way for new growth.

The caterpillar of the Plain Tiger butterfly grows so rapidly in the first two or three days that it does not fit in its skin anymore. But under the old skin, a new loose skin is formed on the growing caterpillar. Then, the caterpillar sheds the old skin. That is, it moults.

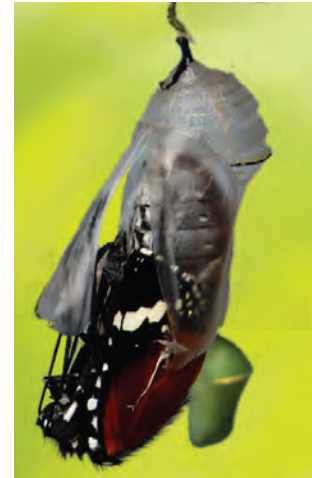
Again it begins to gobble up the leaf and continues to grow rapidly. In two or three days, it moults a second time. In this way, it moults four times. It remains in the caterpillar stage for ten to twelve days.



**Chrysalis**

It remains inside the chrysalis for the next eleven or twelve days. It does not eat anything during this stage. However, inside the chrysalis, important changes take place in its body. The growth of the Plain Tiger gets completed inside the chrysalis. Then, the adult butterfly emerges from the chrysalis. It now has four attractive wings and six long legs. All butterflies go through these stages of growth.

Just before the last moult the caterpillar weaves a button of a silken thread on a stalk or a leaf and hangs itself from it. When it moults this time it forms a pupa which is the next stage of its growth. The pupa of a butterfly is also called a chrysalis.



**A butterfly emerges from its chrysalis.**



**Adult Butterfly**



**Do you know ?**

For each type of butterfly, the type of plants on whose leaves its female will lay eggs is fixed.

The time the larvae take to emerge from the eggs is different for different types of butterflies. There is great variety in caterpillars. Different types of caterpillars are of different colours. Their body is long. Many types of caterpillars are hairy.



Various Butterflies



### Do you know ?

After we have cleaned the grain we buy, we store it in a box. Even then, when we open the box after some days, we may see some insects in it.

There can be insects in the grain stored in places like warehouses, in the grocer's shop or even in our homes. Now, if a female insect lays eggs in this grain, we cannot see them because of their tiny size. The warmth and air they get in the box in which the grain is stored is enough for them to grow. So their growth continues inside the box. They also have the same stages of growth, namely, egg, larva, pupa and adult. When we open the box, we see the insects in the grain at the different stages of growth in which they are.



### What we have learnt –

- A hen sits on her eggs to hatch them. The fully grown chick breaks the eggshell and comes out.
- Egg, caterpillar (larva), chrysalis (pupa) and adult are the four stages of the life cycle of a butterfly.
- The Plain Tiger butterfly lays its eggs on the leaves of the milkweed plant. The larva emerges from the egg. It is called the caterpillar.
- When the growth of the caterpillar is complete, it enters the pupa stage during which it lives inside the chrysalis.
- The adult butterfly emerges from the chrysalis. It has six long legs and four attractive wings.



### Always remember –

Butterflies are a part of our environment. It is wrong to catch butterflies just for fun and to keep them tied with a string.



## Exercises

### (A) Think and tell.

1. It takes 20-22 days for a chick to emerge from a hen's egg. Would the young ones of other birds also take the same number of days to hatch?
2. You must have seen dragonflies hover over grass. Which stage of their life cycle is this – the egg, larva, pupa or adult?
3. When you take a bunch of a leafy vegetable to sort it, you may find holes of different sizes in the leaves. Some leaves may have been nibbled at the edges. What do you think is the reason for that?
4. When you shell peas, you sometimes see tiny green living things inside the pod. Which of the four stages of the life cycle of an insect are they?



### (B) Answer in brief.

1. Why must the hen sit on her eggs?
2. Why does a hen become aggressive when she is hatching her eggs?
3. Which are the four stages of the life cycle of a butterfly?
4. Which changes take place inside the chrysalis of the Plain Tiger butterfly?

### (C) True or false?

1. A lamb emerges from an egg.
2. We cannot easily see the eggs of an ant because they are very tiny.
3. When the caterpillar emerges from the egg, it is not very hungry.

### (D) Fill in the blanks.

1. The female butterfly lays ..... on the leaves of a plant.
2. The larva of a butterfly is called a .....



### Activities



- Draw and colour the picture of a Plain Tiger butterfly.
- Collect colourful pictures of other butterflies and paste them in your notebook.

