LEARN WITH AKSHADA · PHOTO LESSON

Life cycles and food chains

Every living thing is born, grows and has young of its own. And every animal needs food: some eat plants, some eat other animals. Let us follow both stories.



Photo: a hen with her chicks in Raisen district, Madhya Pradesh.

For the parent *read in 1 minute*

A **life cycle** is the set of stages a living thing goes through, from birth to becoming an adult that has young. Then the same stages start again.

Some babies look like small adults (chicks, turtles, people). Others change shape completely as they grow (butterflies, frogs).

A **food chain** shows who eats whom. It always starts with a plant.

Born from an egg, or from the mother's body → **Grows** eats, gets bigger and stronger → **Adult** fully grown → **Has young** and the cycle starts again ↻

Talk about it *before turning the page · 5 minutes*

1. **Were you always this big? What can you do now that you could not do as a baby?**
   Listen for: no, I was a small baby; now I can walk, talk, eat by myself. People grow but keep the same body shape.
2. **Does a caterpillar look like a butterfly?**
   Listen for: no; it has no wings and many legs. It changes completely before it becomes a butterfly.
3. **Think of something you ate today. Can you trace it back to a plant?**
   Listen for: rice, roti and dal come from plants; milk comes from a cow, and the cow eats grass.

How to use these pages

- Pages 2 and 3: life cycles. Cover the words and let your child put the stages in order from the pictures.
- Page 4: food chains. Read every arrow aloud as "is eaten by".
- Page 5 has things to try at home. Finish with the quick check on page 6; answers are on page 7.

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Butterfly changes completely as it grows (this is called **metamorphosis**)



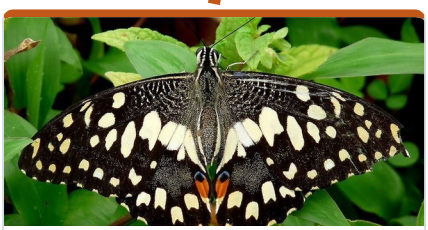
1. Egg
A tiny egg, laid on a leaf the caterpillar will eat.



2. Caterpillar (larva)
Hatches, eats leaves all day and grows fast.



3. Pupa (chrysalis)
Hangs still. Inside, its body is changing.



4. Butterfly (adult)
Comes out with wings, flies, and lays eggs.

Butterfly life cycle
egg → caterpillar → pupa → butterfly
then new eggs ↻

These photos show the **lime butterfly**, common all over India. Its caterpillars live on lemon and curry-leaf plants. Other butterflies, like the **plain tiger** and the **monarch**, go through the same four stages.

Frog starts life in water, then changes into a frog



1. Frogspawn
Eggs in clear jelly, floating in a pond.



2. Tadpole
Lives in water, has a tail, breathes with gills.



3. Froglet
Grows legs; its tail shrinks to a short stump, then goes.



4. Frog (adult)
Lives on land and in water; lays eggs in water.

Frog life cycle
frogspawn → tadpole → froglet → frog
then new frogspawn ↻

Look in ponds and puddles after the monsoon rains: you may see tadpoles wriggling. Watch them, but leave them in the water.

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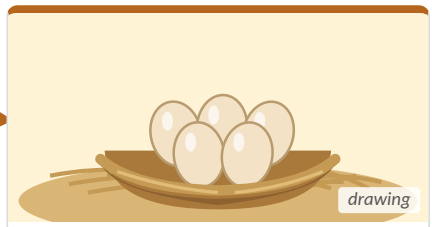
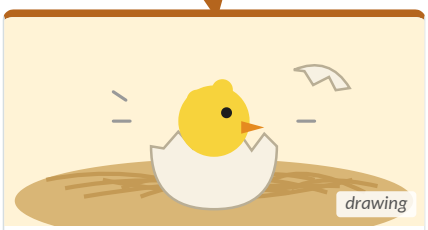
Hen

a bird: the chick looks like a small, fluffy hen



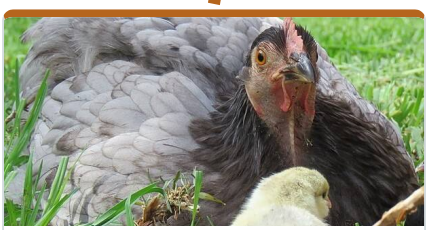
1. Eggs in a nest
The mother sits on them to keep them warm.



2. Hatching
After about 3 weeks the chick pecks its way out.



3. Chick
Fluffy, and soon walks and pecks for food.



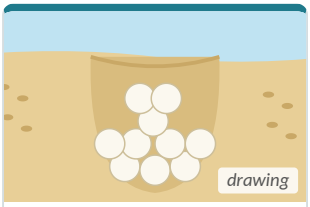
4. Adult with chicks
Grows into a hen or a rooster. Hens lay eggs.

Hen life cycle
egg → hatching → chick → adult
then new eggs ↻

Pictures 1 and 2 are drawings; pictures 3 and 4 are photos of real chicks and a hen.

Sea turtle

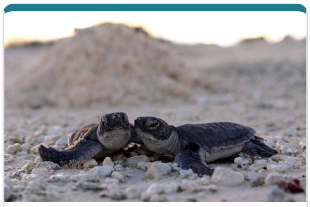
a reptile: babies look like small adults, and no parent looks after them



1. Eggs in the sand
The mother digs a hole on the beach, lays her eggs, covers them and goes back to the sea.



2. Hatchlings
The warm sand keeps the eggs warm. The babies hatch and dig their way out.



3. Off to the sea
They walk to the sea by themselves. No parent looks after them.



4. Adult turtle
Grows up in the sea, then comes back to a beach to lay eggs.

In Odisha, thousands of **olive ridley** turtles come to the beaches at Gahirmatha and Rushikulya to lay their eggs, all at the same time.

People

we grow bigger, but our body shape stays the same; parents and families look after children for many years



Baby
drinks milk

Child
walks, talks, goes to school

Teenager
growing fast

Adult
fully grown

Older adult
grandparent age

Food chains: who eats whom?

Producers

Plants make their own food using sunlight, air and water. They start every food chain.

Consumers

Animals cannot make food. They eat plants, or they eat other animals.

The arrow → means **"is eaten by"**. It always points to the animal that does the eating. Grass → grasshopper: the grass is eaten by the grasshopper.

On land



Grass
producer: makes its own food

→



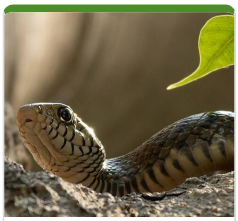
Grasshopper
eats grass

→



Frog
eats insects

→



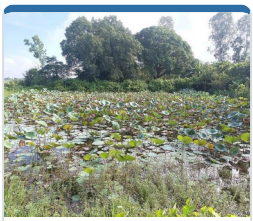
Snake
eats frogs

→



Snake eagle
eats snakes

In a pond



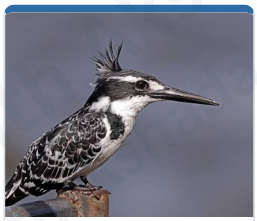
Water plants
producer: makes its own food

→



Small fish
eats water plants

→



Kingfisher
dives for fish

In the desert (like the Thar desert in Rajasthan)



Desert plants
producer: grasses and shrubs

→



Locust
eats plants

→



Desert lizard
eats insects

→



Indian fox
eats lizards and insects

Read a chain aloud

- "The grass is eaten by the grasshopper. The grasshopper is eaten by the frog. The frog is eaten by the snake. The snake is eaten by the snake eagle."
- If all the grass dried up, what would happen to the grasshoppers? And then to the frogs? Every link needs the one before it.

For curious minds: fossils

A **fossil** is what is left of a living thing from very, very long ago, kept in rock: hard parts like bones and shells, or a print of its shape. Fossils tell us about plants and animals that lived long before people.



Ammonite
A sea animal with a coiled shell. This one has been cut in half to show the inside.



Leaf print
A leaf pressed into mud long ago. The mud slowly turned into rock.



Dinosaur skeleton
The bones of a small dinosaur, still in the rock where they were found.

Try at home

Grow a bean, keep a diary

1. Soak a few beans (rajma or moong) in water overnight.
2. Put wet cotton wool or soil in a glass jar and press the beans against the side.
3. Keep it damp. Every day, draw what you see: root, shoot, first leaves.
4. Count the days until the first leaf opens.

Do not eat the soaked beans: raw rajma is harmful. Wash hands after touching soil.

Watch a caterpillar

- Look on a lemon or curry-leaf plant for caterpillars of the lime butterfly or the common mormon.
- Visit it each day. Is it bigger? Has it changed colour? Has it become a pupa?
- Draw it in your diary with the date.

Look, don't touch: some caterpillars have hairs that sting or itch. Leave it on its plant. Never pick up wild animals.

Food-chain paper chain

- Cut paper strips. On each, draw one link: plant, plant-eater, animal-eater.
- Join them as loops in the right order, plant first.
- Read it aloud with "is eaten by" between the links. *Child-safe scissors; a grown-up helps.*

Life-cycle wheel

- Cut two paper circles. Divide the bottom one into 4 parts and draw the 4 stages of a frog or butterfly.
- Cut a window in the top circle; join both with a split pin.
- Turn the wheel and tell the story.

An adult helps with scissors and the split pin.

Key points

- A life cycle: **born → grows → adult → has young**, and it repeats.
- Butterflies and frogs change shape completely as they grow (**metamorphosis**).
- Chicks, turtles and human babies look like small adults. Turtle parents do not look after their young.
- Plants make their own food using sunlight (**producers**); animals eat plants or other animals (**consumers**).
- In a food chain, the arrow means **"is eaten by"** and points to the eater.

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Quick check

10 questions · answers on page 7

1. **Put in order.** Write 1, 2, 3, 4 to show the butterfly's life cycle.

   ___ pupa ___ egg ___ butterfly ___ caterpillar

2. A baby frog that lives in water, has a tail and no legs is called a:

   (a) caterpillar (b) tadpole (c) chick (d) pupa

3. Which baby looks like a small copy of its parent?

   (a) caterpillar (b) tadpole (c) turtle hatchling

4. **Arrow check.** Which food chain is drawn the right way?

   (a) snake → frog (b) frog → snake

5. Which one makes its own food using sunlight?

   (a) grass (b) fox (c) frog (d) eagle

6. **Odd one out:** frogspawn, tadpole, froglet, chick. Which one is **not** a stage in a frog's life cycle?

   .....

7. True or false: mother turtles stay on the beach and look after their babies.

   ☐ True ☐ False

8. Where does a sea turtle lay its eggs?

   (a) in a tree (b) in sand on a beach (c) on a leaf (d) under water

9. Fill in the missing stage: baby → child → _____ → adult → older adult.

   .....

10. Finish the pond food chain: water plants → small fish → ?

    (a) grasshopper (b) kingfisher (c) locust (d) grass

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Answers

1. egg (1), caterpillar (2), pupa (3), butterfly (4).
2. (b) tadpole.
3. (c) turtle hatchling. Caterpillars and tadpoles change shape completely before they become adults.
4. (b) frog → snake. The arrow points to the eater: the frog is eaten by the snake.
5. (a) grass. Plants are producers; animals are consumers.
6. Chick. It is a baby hen; the other three are stages of a frog.
7. False. The mother covers the eggs with sand and goes back to the sea. The hatchlings look after themselves.
8. (b) in sand on a beach.
9. Teenager.
10. (b) kingfisher. It dives to catch fish.

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